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SKILLS**

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Digital SLR Photography

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- ✓ USE COLOUR IN NATURE AND CLOSE-UPS
- ✓ TEN TOP SUMMER GEMS TO TRY TODAY



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NX500**

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FOR YOUR DSLR? *p106*



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SILHOUETTE**

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**FANTASTIC
JURASSIC!**

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OUR WORKSHOP
HAS A READER
SHOOTING CARS
LIKE THE PROS *p48*



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The subscription service is open six days a week:
Monday to Friday (8am-8pm); Saturday (9am-1pm)
Order online at: <http://subscribe.digitalslrphoto.com>
Standard subscription rate: 12 issues for £43 (UK only)

OVERSEAS SUBSCRIPTIONS: +44 (0)1795 414953
Europe £45; Rest of World £60; USA \$99.
USA & Canada subscriptions: Phone: 1-888-428-6676;
Fax: 1-757-428-6253; Email: cs@imsnews.com;
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Digital SLR Photography Back Issues, 800 Guillat Avenue,
Kent Science Park, Sittingbourne ME9 8GU.

Digital SLR Photography is produced for Dennis Publishing
by Red Creative Media Ltd.

Digital SLR Photography is published on the second
Tuesday of every month. Digital SLR Photography is
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ISSN number: 1751-8989

Digital SLR Photography is printed in the UK.

Congrats to Kate & William on the birth of Princess
Charlotte. Call us if you'd like some family portraits done!

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WELCOME TO THE JULY 2015 issue of *Digital SLR Photography*.

Typically, as I was poised to wax lyrical about the arrival of
summer, a huge black cloud has decided to unleash the mother of
all hailstorms to remind me that you can never take the weather
– especially in the UK – for granted. However, assuming it's just a
nasty blip that soon passes over, we're now heading into one of the

most colourful times of the year. With the seasons in transition from spring to
summer, outdoor photographers are presented with a multitude of
photographic potential and in this month's issue, we've several articles to help
you take full advantage. Our *Ultimate Guide to Colour* (page 64) provides expert
insight into how colour can add impact to your photos, while *Shoot Summer*
(page 85) provides ten inspiring ideas for you to try over the coming weeks.

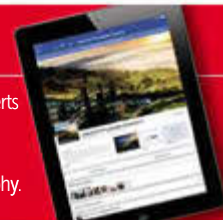
We're not done there either. We've dedicated our *Photo Skills* section
(page 27) to outdoor photography, with brilliant tutorials covering everything
from shooting scenics at wide apertures and capturing wild flowers at dusk to
creating unique time-stack images. With this issue offering further techniques,
interviews and tests, you've a very busy month ahead. All the best!

Daniel Lezano **Editor**



Join a growing community

OVER HALF A MILLION FOLLOWERS AND GROWING! Get online and interact with the experts
at *Digital SLR Photography*. You can follow us on Facebook (facebook.com/digitalslrphoto),
tweet us on Twitter (@digitalslrphoto), join us on Flickr (flickr.com/groups/digitalslrphoto) or
email us (dslrfeedback@dennis.co.uk) to keep up to date with all that's going on in photography.



ON THIS MONTH'S COVER...

Professional nature
photographer Ross Hoddinott
shot this month's eye-catching
cover image. It shows an
Orange Tip butterfly set against
a strong red backdrop. For
more details on how to use
colour to add impact to your
images, check out our *Ultimate
Guide*, starting on page 64.



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of *Digital SLR Photography*
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money-saving offers or
free gifts for subscribers, too!
For more details, see page 98.



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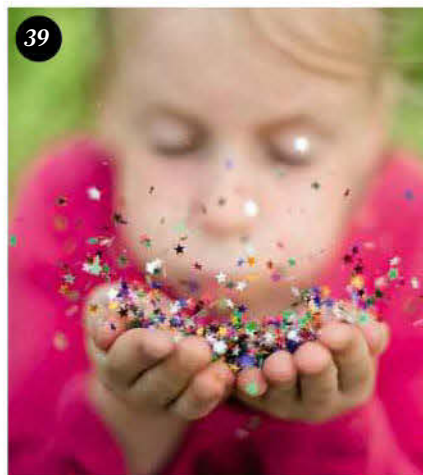
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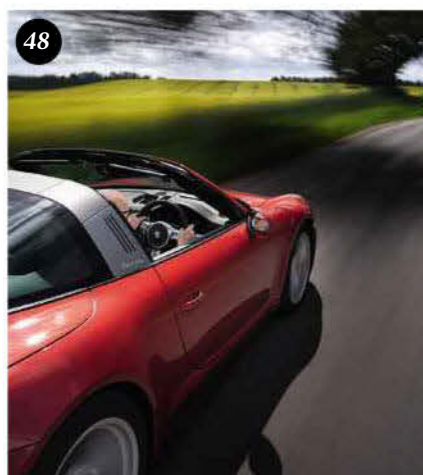
A good understanding of colour is essential to create great images – follow our comprehensive guide



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CONTRIBUTING THIS MONTH...



Daniel Lezano

With over 30 years' experience as an enthusiast SLR photographer and 20 years on photo magazines, editor Lezano is as passionate as ever about photography, in particular portraits.



Caroline Schmidt

With years of experience working on magazines, and as a photographer, contributing editor Caroline is passionate about delivering an inspiring magazine each month.



Jordan Butters

With a finger always on the pulse of all things photography, Jordan turns his hand to most things: he's our social media master, features guru and talented pro photographer.



Ross Hoddinott OUTDOOR

He's not only an award-winning nature photographer, a leading expert in landscape and wildlife photography, he's a top tutor, too. rosshoddinott.co.uk



Adam Burton LANDSCAPES

A highly successful landscape photographer, regular contributor Adam Burton is the author of the photography book *The Dorset Coast* www.adam-burton.co.uk



Helen Dixon LANDSCAPES

Helen is living the dream, having given up a full-time job to live in Cornwall and become a professional landscape photographer. helendixonphotography.co.uk



Ray Collins ACTION

An award-winning photographer whose seascape images have taken the world by storm thanks to his dedication and great technique. raycollinsphoto.com



Lee Frost LANDSCAPE & TRAVEL

A long-standing regular contributor, Lee is a fountain of knowledge when it comes to shooting landscapes and delivering expert tutorials. leefrost.co.uk



Tyler Stableford COMMERCIAL

Known as one of the world's best adventure photographers, no idea is too far fetched or project too big, as you'll find out on page 92. stablefordstudios.com



Dean Smith AUTOMOTIVE

Having worked with the world's motoring press and leading car manufacturers, Dean is an authority when it comes to car photography. deanphoto.co.uk



Richard Hopkins TESTS

With over 30 years' experience testing cameras on photography magazines, Richard's one of the UK's leading technical experts on putting photo kit through its paces.

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Portfolio

Mountain Paradise

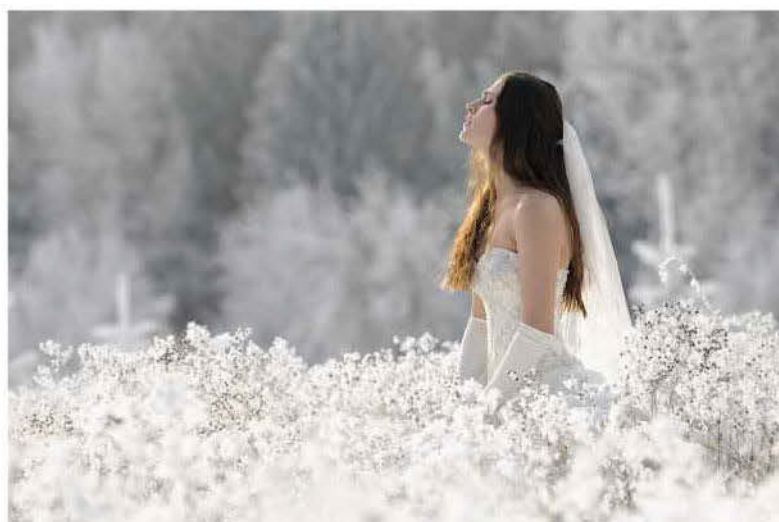
by Chris Moore

www.exploringlightphotography.com

"A trip to the Ogilvie Mountains in Canada during autumn presented an incredible carpet of fall colour – a photographer's paradise! Clouds were rolling in late in the day, and I knew we would see a special sunset. Just as the sun dipped behind the hills, a nice glow glanced across the face of Tombstone Mountain."

Nikon D800E with NIKKOR AF-S 14-24mm f/2.8G lens.
Exposure: 1/20sec at f/16 (ISO 100).





Insomnia by Viktoria Haack

www.viktoriahaackphotography.ca

(Above) "This is a self-portrait taken almost by accident. I was shooting a sunset when I spotted a small walkway that had become flooded. It felt like the image needed something so I stepped into the frame, shooting a long exposure with a self-timer. The wind was blowing my hair and it was hard to keep still without support."

Nikon D300s with Sigma 10-20mm f/4-5.6 lens. Exposure: Four seconds at f/18 (ISO 200).

Bliss by Viktoria Haack

(Centre left) "I wanted to take advantage of the beautiful hoar frost we'd been experiencing and fortunately I was able to combine this with Stephanie in her wedding dress. It was freezing, but she didn't complain once! We worked fast as the sun was arriving imminently. A reflector was used to help bounce some light into her face."

Nikon D300s with NIKKOR 70-200mm f/2.8G lens. Exposure: 1/1600sec at f/3.2 (ISO 200).



Take a seat by Viktoria Haack

(Bottom left) "I happened upon this chair on a local beach and decided as it was already at this location that it might make for an interesting prop. My model, Krystal, was happy to oblige and we shot near sunset to make the most of soft light. I used a six-stop Neutral Density filter to extend the exposure and smooth out the water."

Nikon D4 with AF-S 17-35mm f/2.8D lens. Exposure: Four seconds at f/16 (ISO 100).

Miranda by Viktoria Haack

(Right) "This shoot was stylized by Rafael; a local seamstress. We wanted to make the most of Miranda's gorgeous hair and try to match clothing and locations to create similar tones. I placed her in a stand of trees, shot wide open to maximise focus on the model and allow the environment to softly fall away around her."

Nikon D4 with AF-S 70-200mm f/2.8G lens. Exposure: 1/800sec at f/2.8 (ISO 400).





Frozen Dawn by Benjamin Williamson

benjaminwilliamson.photoshelter.com

(Top) "The fog you see coming off the water is called arctic sea smoke, and only forms when temperatures are very low, usually below -24°C . The ocean mist along with a coating of ice and a dramatic sunrise made this one of my favourite outings. Many would call this bad weather, but for a landscape photographer, it couldn't get any better."

Canon EOS Rebel T2i with Canon EF-S18-55mm f/3.5-5.6 IS II lens. Exposure: 1/15sec at f/8 (ISO 100).

Head Light Sea Smoke by Benjamin Williamson

(Above) "This was a great chance to use a long lens to make a landscape image, since I was over a mile away from the lighthouse. That required the reach of a 400mm, which compressed the atmospheric sea smoke in front. It looks like a sauna, but it was around -28°C when I took this photo. If you want extraordinary images, you have to be out there when the conditions are extraordinary."

Canon EOS 6D with Canon EF100-400mm f/4.5-5.6L lens. Exposure: 1/800sec at f/8 (ISO 100).



Spirit of Maine by Benjamin Williamson

(Above) "So many photos of Portland Head lighthouse are taken from the cliffs above. I wanted to try something a little different and get low to highlight the reason for the lighthouse's existence – the dangerous waves and rocks. The light was perfect as the sun came up under a thick bank of clouds, creating highlights on the crashing waves and illuminating the rocks and tower in a golden glow."

Canon EOS Rebel T2i with Canon EF-S18-55mm f/3.5-5.6 IS II lens. Exposure: 1/4sec at f/8 (ISO 100).

Red Dawn by Benjamin Williamson

(Right) "Most of my trips to the lighthouse are planned around the weather. If it looks like the clouds are in the right position for a good sunrise, I'll hop in the car at 4:30am and drive the 45 minutes in hope of seeing dramatic light. That was definitely the case on this morning, as the sky exploded above the lighthouse and reflected this beautiful red on the water. This is a single exposure with no filters."

Canon EOS 1Ds Mk II with Canon EF17-40mm f/4L lens. Exposure: 1/3sec at f/11 (ISO 100).



Portfolio

The Ghost and the Darkness by Atif Saeed

www.facebook.com/AtifSaeedFineArtPhotography

(Right) "This was the riskiest image I've ever taken, but it was worth it. I was in a safari park in Pakistan when I saw a male lion. I got out of my car and slowly crept towards it. The sound of the shutter attracted the lion's attention – my cue to scarper back into the car!"

Nikon D4 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/500sec at f/4 (ISO 1000).

In Yellow by Atif Saeed

(Below left) "Just before spring, the mustard field near my house fills my mind with happiness and fun. I saw this bluethroat who appeared to be enjoying the same feeling. I crouched down to fill the background with yellow, allowing some foreground bokeh to creep in."

Nikon D3s with NIKKOR AF-S 300mm f/2.8G lens and 1.7x TC. Exposure: 1/400sec at f/6.3 (ISO 640).

Black Buck by Atif Saeed

(Below right) "The male black buck for me is one of the most beautiful horned species found in the deserts of Pakistan. This was captured during the golden first light at the beautiful Lal Suhanra National Park, Bahawalpur – the gentle backlight highlights the buck's form."

Nikon D800 with AF-S 500mm f/4G lens. Exposure: 1/1600sec at f/4 (ISO 200).

A Perfect Date by Atif Saeed

(Bottom centre right) "I had this shot in mind for some time and it took a lot of persistence to finally capture it. After monitoring this small pond for many weeks the conditions were perfect, with a low blood-red sunset and a couple of graceful egrets enjoying each other's company."

Nikon D800 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/1250sec at f/4 (ISO 500).

Little Owl by Atif Saeed

(Bottom far right) "The Little Owl is a very intelligent bird and this one landed on a branch opposite the tree that was camouflaging me. While it observed its surroundings, I was able to capture this shot using the foreground branches to create a perfect frame."

Nikon D800 with NIKKOR AF-S 500mm f/4G lens. Exposure: 1/640sec at f/4 (ISO 640).

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Snapshots

YOUR MONTHLY PHOTO DIGEST



FROZEN IN TIME

THE CLOCK IS TICKING AS THE 2015 *NATIONAL GEOGRAPHIC TRAVELER* PHOTO CONTEST DRAWS TO A CLOSE AND EARLY ENTRIES ARE REVEALED

ENTER
NOW!

THE ANNUAL *NATIONAL GEOGRAPHIC Traveler* Photo Contest attracts a guaranteed crop of incredible images that really strike home just how amazing and diverse our planet is. With just a few weeks left to enter, *National Geographic* has released some of the most eye-catching entries so far, such as this striking shot. Captured by Ed Graham, it shows an iconic Icelandic scene: "I had a tripod set up on Godafoss waterfall," explains Ed. "I used a ten-stop ND to capture the movement of the water as the sun set in the distance". If you're planning to enter, you'd better be quick – entries close on 30 June and will cost you USD\$15 per image, with no limit on the number of images that you can enter.

The winner nets themselves an eight-day *National Geographic* Photo Expedition to Costa Rica, the Panama Canal and international acclaim! To find out more, seek inspiration or to enter the contest for yourself, visit: www.natgeo.com/travelerphotocontest ➔

IMAGE AND CAPTION: ED GRAHAM / NATIONAL GEOGRAPHIC TRAVELER PHOTO CONTEST



Think BIG!

SIZE MATTERS, RIGHT? GET READY FOR A BUMPER-SIZED DOSE OF LENS ENVY!

THOSE OF YOU with a thing for big lenses might want to take a moment to ready yourselves, and possibly raid the piggy bank, re-mortgage the house and see if anyone needs any spare organs, as not one but two mammoth lenses have gone on sale online this month.

Top photo retailer B&H in New York has listed a unique used Canon Super Telephoto EF 1200mm f/5.6L USM lens in its online store. The longest telephoto lens ever built by Canon, these beasts were hand-built to order at a rate of just two per year, taking around 18 months to arrive from point of order. Containing 13 elements in ten groups, the huge lens weighs in at just over 16kg, and measures 84cm end to end! The lens is listed as being in 9/10 condition, but it will set you back a cool USD\$180,000, in addition to approximately USD\$1,500 to ship it to the UK. You can check it out for yourself here: http://bit.do/DSLR_1200mm

If that doesn't quite float your boat, how about something even bigger? A gigantic



B&H PHOTO VIDEO

Above: The Canon 1200mm f/5.6L is best used with a tripod!
Right: The Jonel 100 NASA lens, next to a Hasselblad for scale.

Jonel 100 NASA mirror lens has been spotted on eBay, offering a whopping 2540mm f/8 equivalent focal length when mated to a 6x6 format camera. A sturdy tripod is needed, as the lens alone weighs in at around 82kg – the equivalent of your average UK man!

In comparison to the lens B&H has on offer, the Jonel 100 is a bargain, listed at 'just' USD\$33,500 at the time of print. If you fancy a bid, visit: http://bit.do/DSLR_Jonel100



AERO ZEISS / EBAY

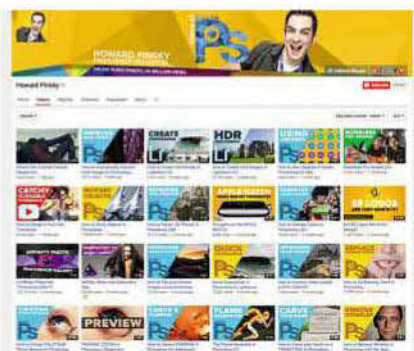
ONLINE INSPIRATION *Top YouTubers*

Looking for a bit of visual post-processing guidance? Long gone are the days when tricky processing techniques were shrouded in secrecy, or knowledge was only passed on from mentor to student – nowadays, you can learn to do pretty much anything in a variety of different ways thanks to YouTube! While there are a huge number of great video tutorials out there, there are also a lot poor practices preached too! Here are our three favourite post-processing YouTube channels that we would highly recommend subscribing to...

Photo Fact: Did you know?

It's estimated that over 3.5 trillion photographs have been taken since the invention of photography in 1826! And the trend doesn't show any signs of slowing down. In fact, it's estimated that every two minutes we now take as many photographs as were taken during the whole of the 1800s.

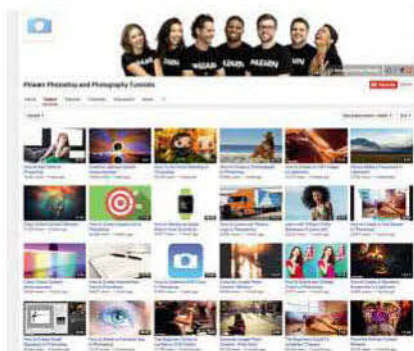
SOURCE: VSAUCE/YOUTUBE



1) Howard Pinsky

www.youtube.com/user/lceflowStudios

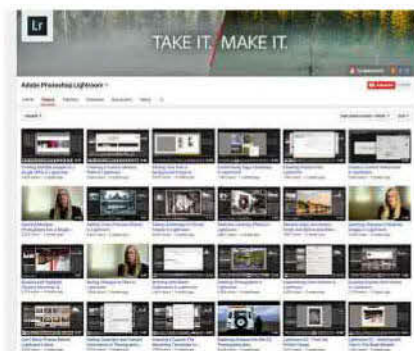
Pinsky's YouTube channel has been on the go for almost ten years now, and his highly-enthusiastic style of teaching is popular with novice Photoshoppers. He covers Photoshop, Lightroom and popular plug-ins, presenting tutorials on everything from basic editing to more involved and complex digital art – well worth subscribing to!



2) PHlearn

www.youtube.com/user/PhlearnLLC

PHlearn offers a range of paid-for tutorials via their website. They also offer the same high quality in their free Photoshop and photography YouTube videos too! Presenter Aaron Nace is highly amicable and entertaining, but moves at a fast pace, so his style might not suit beginners. His knowledge is right up there with the best however!



3) Adobe Photoshop / Lightroom

www.youtube.com/user/Photoshop
www.youtube.com/user/AdobeLightroom

Two for the price of one – Adobe's official channels are a guaranteed source of quality knowledge, as you'd expect they should be. Presentation is slightly corporate and deadpan, but new Adobe features usually hit these channels before anywhere else, making it a good first port of call.



BARTOSZ WOJCZYŃSKI

IN CRATER DETAIL

AMATEUR ASTRO-PHOTOGRAPHER CAPTURES AN INCREDIBLE LUNAR IMAGE

IF YOU'VE FOLLOWED our moon photography tutorial (issue 102, May 2015) then you'll appreciate just how much lunar detail can be captured using your DSLR. Self-taught Polish photographer Bartosz Wojczyński has taken things one-step further – actually, he's taken things over 30,000-steps further by creating a super detailed and crisp image of our only natural satellite, comprising of 32,000 stitched images!

Amateur astronomer Bartosz captured the astronomical amount of exposures in around half an hour using a Celestron C9.25 Schmidt-Cassegrain telescope with a ZWO ASI174MM monochrome camera with a 2.2-megapixel sensor and a set of specialised filters. The camera's specification may not sound impressive, but it's ideal for Bartosz' specialist discipline, as he explains: "While image resolution may appear under-whelming, the camera possesses an enormous advantage in the form of speed – it's capable of generating up to 165 uncompressed frames-per-second, allowing for rapid collation of data."

While Bartosz was able to capture the images from his balcony at home, the techniques required to create an image like this are more than simply point and



shoot. "Our atmosphere is not a stable optical medium, so there are slight random distortions present in each frame," Bartosz reveals. "By combining and sharpening a huge amount of data, the distortions cancel each other out and we get a crisp, clean image. I repeated the process twice: once with an infrared filter and once with a violet filter. This allowed me to bring out the subtle colour differences of the lunar surface by overlaying images from the different filters. All in all processing took around five to six hours." **To view more of Bartosz impressively detailed astrophotography, visit albireo.vipower.pl/bar**

REAL OR FAKE?

Got an eye for knowing a Photoshopped image when you see one?

As part of Photoshop's 25th anniversary, Adobe has released a quick online quiz that you can play on your computer, phone or tablet to see how hot you are on doctored images. As well as demonstrating how realistic the possibilities are with Photoshop, it also shows how unreal the world can look! The scores across the doors in the *Digital SLR Photography* team read: Daniel – 21/25; Jordan – 22/25; Caroline – 22/25 and Luke – 24/25. How did you do? Tweet us @digitalslrphoto and let us know!



“A PORTRAIT IS NOT MADE IN THE CAMERA BUT ON EITHER SIDE OF IT”

— Edward Steichen —

Photo Hack!

Going undercover!

Okay, this is more of an invaluable tip than a DIY hack, but one everyone should have up their sleeve. There's nothing worse than getting home to find you've misfocused or something else is obviously wrong with your shots, simply because you couldn't clearly see the LCD screen outside on a sunny day. The solution is simple: pull a jacket, jumper or cover over your head when reviewing your images. You might look a little daft (especially if you're showing someone else the shot), but rather than mess up the shot!



VICTORY!

70 YEARS ON, WE LOOK AT THE HISTORIC IMAGES THAT WERE TAKEN AS VICTORY WAS CELEBRATED ACROSS EUROPE

ON 8TH MAY, 1945 the world breathed a collective sigh of relief as an end was called to World War II – the worst and bloodiest conflict in modern history. With the surrender of Nazi Germany, celebrations erupted throughout Europe and a national public holiday was declared – Victory in Europe Day, or VE Day as it's more commonly known. In London, a city bombed during WWII's many aerial assaults, elated countrymen and women flooded the streets in bittersweet jubilation as Prime Minister Winston Churchill, King George VI and Queen Elizabeth addressed the crowd.

At this point in time, colour photography was in its infancy, so the vast majority of images from VE Day were produced in monochrome. However, through our modern-day experiences of VE Day celebrations we can but imagine the sea of bold red, blue and white that flowed through UK streets in 1945 as revellers celebrated.

Some 70 years later, VE Day is still honoured with passion across the UK, with traditional bunting strung across high streets, street parties, parades, air displays, concerts and festivities reminding current and future generations of the sacrifices made by so many. It's a tradition that we hope carries on for years to come!

In celebration of the 70th anniversary of VE Day, we've put together a collection of historic images from that great day. For more info about VE Day, visit: www.veday.org.uk

Clockwise from top: Crowds gather in Piccadilly Circus; Churchill prepares to address the nation; Dancing in the street near Berkeley Square; British sailors and girlfriends in Trafalgar Square; Two small girls wave their Union Jack flags.



Quick Edit

LR Import Presents

Find yourself doing the same base tweaks to your images in Lightroom over and over again? Save time by using Import presets! Load a photo into the Develop module and perform your most common adjustments – Lens Corrections, Curves adjustments, Vibrance, Clarity and Sharpening, for example – before clicking on the + symbol on the **Presets** tab. Select the settings that you want to apply when you import your images, and save the preset. Then, when you next import a set of photographs select your preset from the **Develop Settings** menu (under User Presets) in the **Apply During Import** tab – your preset will be applied automatically, speeding up your workflow.



VIDEO OF THE MONTH**TOP FIVE LIGHTING TIPS FOR WEDDINGS**

by Ryan Brenizer

New York-based photographer Ryan Brenizer is perhaps best-known amongst other photographers as the guy that 'invented' the Brenizer technique – that being shooting several images of a subject before stitching them together in a multi-row panoramic fashion, creating a wide shot with an insanely narrow depth-of-field. Slightly less known is that he's one of the America's most sought-after wedding photographers and a master of flash photography. In this ten-minute video presented by B&H, Brenizer covers his top tips for using flashguns at weddings, but the techniques and tips are valid no matter what your subject or discipline. Interspersed throughout are examples of Brenizer's work as he explains the techniques and thought processes behind each shot. Even the most hardened flash professional will take at least something away from this insightful and informative video. To view it for yourself, visit: http://bit.do/DSLR_Brenizer



ALL IMAGES: RYAN BRENIER/OUTLINE

**GEOTAGGERS' WORLD ATLAS**

PROGRAMMER USES FLICKR DATA TO PLOT OUT AN ATLAS OF THE MOST POPULAR PHOTOGENIC LOCATIONS AND ROUTES IN YOUR LOCALITY

EVER WONDERED HOW much picture potential could be hiding around the corner? Or if you're missing out on an incredible viewpoint that you haven't quite discovered yet? A clever new online mapping system, called The Geotaggers' World Atlas, has been designed by Eric Fischer of online mapping service Mapbox. The aim is to highlight the photo hotspots in your area, using geotagging and Flickr's API.

Drilling into ten years' worth of Flickr geotagged data, Eric has created a map of the entire world that shows where images were taken, along with a line identifying a link between two or more images by the same photographer, based on timestamps and geotagged data. The colour of the lines indicates the time distance between two images. It sounds complex, but it isn't, and when viewed as a whole the maps highlight where clusters of images were taken and scenic routes throughout your vicinity. It's simple logic, and Eric describes it best: "A cluster of geotagged photos is a good indicator of the interestingness of a place because it signifies that people went there in the first place, saw something worth taking a picture of, and put the extra effort into posting it online for others to appreciate."

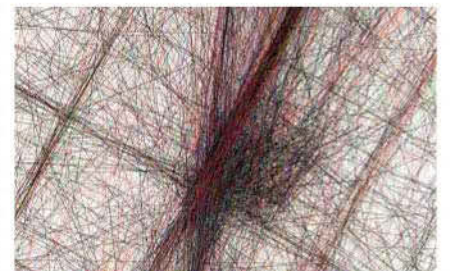


OPENSTREETMAP/GEOTAGGERS' WORLD ATLAS

Above & right: Coloured lines represent popular photo locations in central London – zooming in reveals the detail!

And a sequence of photos along a route is even more significant, because it indicates that someone sustained their interest over distance and time rather than taking one picture and turning back.

"The project has been full of surprises, making me aware of streets, neighbourhoods, and whole cities I knew nothing about before. The separate paths of thousands of individuals combine to give the appearance of a sketch. The red lines on the map (which show where a photographer travelled between sites at a speed between seven and 19 miles per hour) that I had hoped would identify favorite bike routes, turned out instead to reveal scenic ferries."



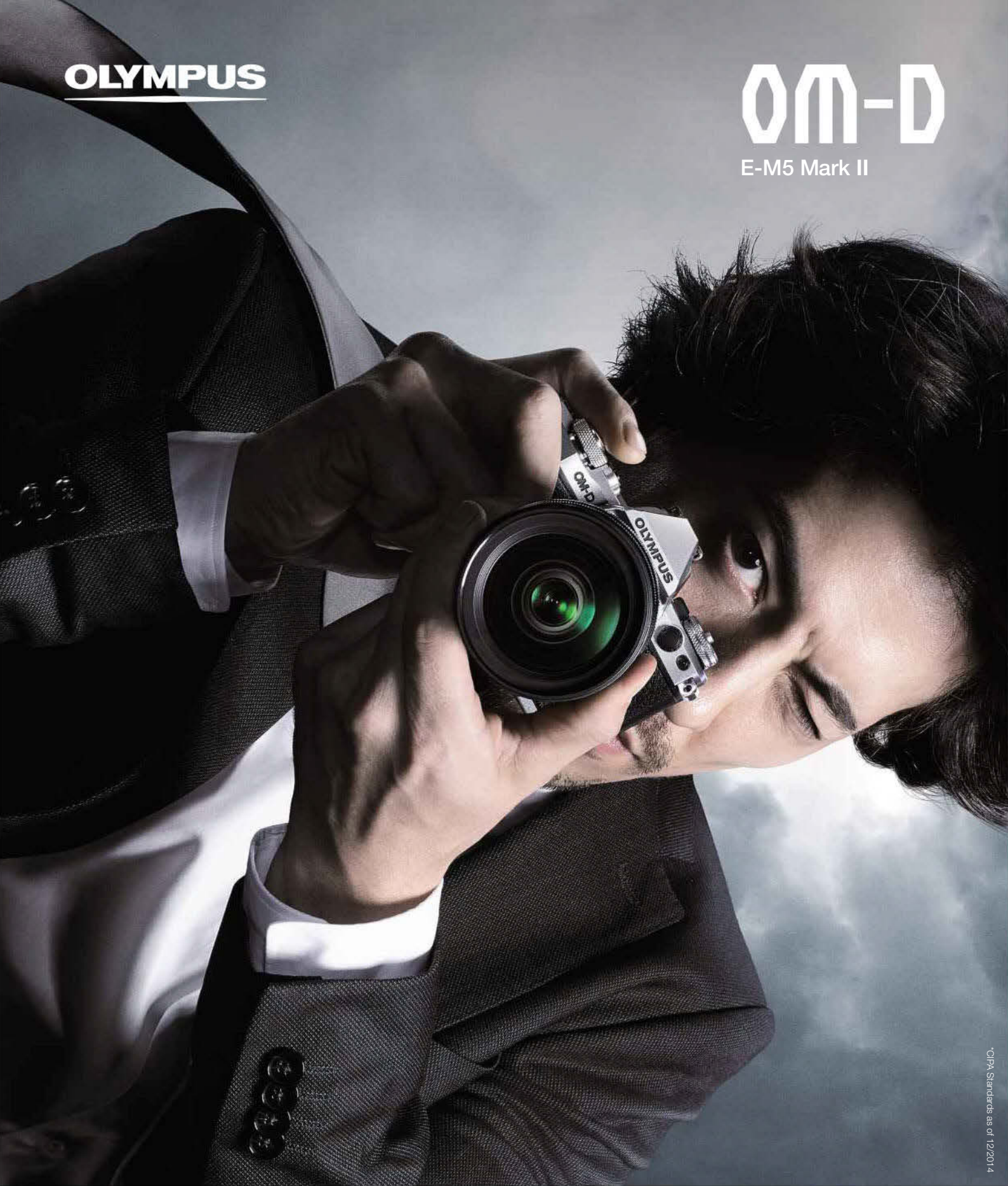
The effect is more pronounced when viewing largely-populated areas – such as big cities like London or Birmingham – or popular photo spots, like Lindisfarne or the Jurassic Coast, and shows clear trends in how and where people take pictures.

You can try it out for yourself by visiting: http://bit.do/DSLR_geo

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The Location Guide

Dorset's Jurassic Coast

The first of our two-part guide to one of the most spectacular and photogenic areas of the UK, the Jurassic Coast in south west England is a magnet for landscape photographers from all over the world

LOCATION: DORSET, ENGLAND / OS REF: OL 15 PURBECK & SOUTH DORSET



Jurassic Coast, Dorset

The Jurassic Coast is England's first natural World Heritage Site. This dramatic length of coastline stretches from Old Harry Rocks in Dorset all the way to Oorombe Point on Devon's south coast. Throughout this 95-mile journey, the geology of the coastline continually changes, revealing 185 million years of Earth's history. From a geologist's perspective all this equates to a fascinating field trip of fossils, strata and rocks. But from a photographer's perspective this means dramatic cliffs, amazing foreground details and some of the most iconic and recognisable coastal scenery to be found anywhere in Britain.

For the first part of this location guide to the Jurassic Coast, we focus on the eastern half that falls entirely within the county of Dorset. Our journey begins (or ends) in dramatic fashion at Old Harry Rocks on the Isle of Purbeck. To reach Old Harry, you need to park in the village of Studland and follow a well maintained footpath for 20 minutes or so until you reach the cliffs. As Old Harry works best as a sunrise location you will start your walk in darkness so remember to pack your head torch.

Once you reach the clifftops, the scenery immediately rewards you for your early start. Towards the north, the white chalk cliffs drop away suddenly revealing a glorious view towards the sea stacks that make up Old Harry Rocks and out over Poole Bay. This location works perfectly for shooting



1 & 2) KIMMERIDGE: There's plenty to choose from in the way of foreground interest here – from glass-like rock pools to slick black rocks and boulders.
3) LULWORTH COVE: The chalk ledges make for a unique foreground.

sunrise right throughout the year. In the winter months the sun rises out of frame to the east, offering rich side lighting to turn the white cliffs to gold. In the summer, the sun rises almost behind Old Harry, so providing you arrive in good time any clouds in your picture should glow with predawn colour.

After the sun has risen, don't forget to look back behind you. Just a few steps away the view southwards towards Swanage may be less photographed but is equally spectacular.

Moving westwards, you pass the pretty seaside town of Swanage before reaching some of the quietest spots on the Purbeck coast. Winspit, Seacombe and Dancing Ledge may not hold the lure of Durdle Door or Kimmeridge but they are well worth a visit. Geographically, these three coves are all close together, and accessed via short walks from Worth Matravers village. Comprised of the same layered Purbeck Stone the coves bear similarities to each





6

other and can easily be visited as a group via a quick walk along the coastal path. These locations, particularly Winspit are ideal for sunrise photography, especially in the winter months when the sun rises over the sea.

To the west of Winspit the coastline ambles around St Aldhelm's Head and past Chapman's Pool before reaching Kimmeridge Bay. Kimmeridge is one of the highlights of the Jurassic Coast for photographers and geologists alike, but can appear somewhat under-whelming upon first impression.


From the clifftop car park the view down into the bay reveals a seaweed-covered series of ledges stretching out into the sea backed by squat dark cliffs. Don't let this put you off, once you reach the shoreline you will experience more foreground potential than anywhere else along the Jurassic Coast. This place was made for landscape photographers! The ledges are cracked into wonderful shapes and eroded in places, offering incredibly photogenic


textures that make them irresistible subjects. Scattered around the ledges, inky black smooth pebbles add beautiful details to your foregrounds especially when wet and shiny.


The backgrounds aren't bad either! To the east, the distinctive Clavell Tower looks to all the world like it should be a clifftop lighthouse, while in the other direction the low cliffs give way to further views of the imposing Gad Cliff and distant Portland. Take your time to explore this location fully; however some notes of caution must apply. The cliffs here are extremely fragile, and regular rock falls occur so don't position yourself too close to any. On the western edge of the shore, a sign warns of 'Danger of Death' for anybody foolhardy enough to pass beyond. This is the start of the MOD Lulworth Ranges, where during the week and occasional weekends the coast becomes a live firing zone. For those wishing to pass the sign and explore Broad Bench and nearby Hobarrow Bay, a quick check online will advise you when firing is taking place.

- 4) **WORBARROW BAY:** The surf is ferocious here as the water runs off after an enormous wave crashes onto the beach.
- 5) **OLD HARRY ROCKS:** Dawn sky above the vertical chalk cliffs of Old Harry at the beginning of the Jurassic Coast.
- 6) **MUPE ROCKS:** Sunsets are majestic when viewed and photographed from the dramatic shoreline of Mupe Rocks.

Useful Information

 **Where is it?** The section of the Jurassic Coast covered in this month's guide is in Dorset, running from Old Harry Rocks near Studland (19 miles south of Poole) to Portland Bill, (nine miles south of Weymouth).

 **Getting there by road by Road:** From London, head south down the M3 and then west onto the M27. Continue on the A31 until you reach Bere Regis. From here you can either continue along the A35 following the signs for Weymouth and then Portland, or alternatively take the road towards Wareham and onto the Purbeck coast.
By rail: For Portland Bill there is a train station at Weymouth (nine miles). For the Purbecks there are stations in the nearby towns of Wareham and Wool.

 **Places to eat and sleep:** The Greyhound, Corfe Castle, BH20 5EZ; The Black Bear, 14 South Street, Wareham, BH20 4LT (01929) 553339/www.blackbearwareham.com

 **Local camera shops:** Robert White, Unit 6 Alder Hills, Poole, Dorset, BH12 4AR. www.robertwhite.co.uk



Adam Burton: "Why I love the Jurassic Coast"



"For me, coastal photography is about soaring cliffs, rocky coves and beaches: the Jurassic Coast is bursting with these kinds of fascinating locations just waiting to be explored and photographed. I have always had a special connection with the Jurassic Coast, especially the Dorset side. I live in Devon now but when I first became interested in photography I lived on the edge of the New Forest, just down the road from Dorset.

As well as the New Forest, the Dorset coast became my playground for photography; I regularly visited places like Kimmeridge, Durdle Door and Mupe Rocks as I taught myself and developed my style. Nowadays, any return visit back to photograph this stretch of coastline is full of nostalgia for me. It will always be a very special place."

📍 Jurassic Coast, Dorset

Continue west and you'll soon reach two of the coastline's most beautiful and unspoilt locations: Worbarrow Bay and Mupe Rocks. Being in the middle of the Lulworth Ranges, Worbarrow Bay and its neighbour Mupe Rocks are usually inaccessible through the week. Worbarrow is an incredibly scenic sweeping bay backed by soaring white cliffs that stretch all the way to Mupe Bay to the west. At the tip of the bay Mupe Rocks are simply amazing; here you will find a whole series of towering sea stacks and ledges, which make fantastic photographic subjects.

It may involve a 30-minute walk to reach Mupe, but it's advisable to bring wellies. In order to make the most of the scenery, you ideally want the tide to be high enough to flood between the ledges. This can leave you standing in precarious positions on jagged rocks to keep your feet dry, so with wellies you can easily stand in the water. As the ledges point eastwards, Mupe makes an obvious sunrise location in winter; but sunset in winter is equally worthwhile as it provides rich side lighting on the rocks.

Further along the coast, Lulworth Cove and neighbouring Durdle Door are probably the highlights of the Jurassic Coast. Anybody who remembers their geography lessons at school will probably be familiar with Lulworth Cove and nearby Stair Hole, but from a photographic perspective Durdle Door is the standout star. With soaring white cliffs, a magnificent natural arch and a sweeping beach, Durdle Door is one of the UK's most well-known coastal landmarks. As well as being incredibly scenic, this area is also wonderfully photogenic. You can photograph Durdle Door from a variety of viewpoints, each offering something very different. First off, there's the all-encompassing view of the arch, cliffs and bay captured from the steps above the beach. Further along the cliffs you can shoot back towards the arch and eastwards towards Man O'War Bay. For something different, head down to the beach to shoot the arch with waves washing up against the shore. As with many other places along this stretch of coast, Durdle Door is best captured in the winter months when the sun rises and sets over the sea. Either end of the day works well here; sunrise for dawn colours over the arch, late evening sunlight for illuminating the arch in golden light, or sunset for colourful skies over the sea towards Portland.

Moving west, the coast is less interesting with only Ringstead Bay and Osmington Mills offering chances to shoot from the shore. Passing Weymouth, you reach the Isle of Portland. Here the geology changes again, becoming more dramatic and rugged until its culmination at the stunning Portland Bill at the southern tip of the island, and most southerly point of the Jurassic Coast.

Portland Bill is a wonderful place for photography. Immediately evident to any visitor is the red and white banded



ALL IMAGES: ADAM BURTON



- 7) WINSPLIT:** This location offers a less recognisable but equally impressive alternative to the more well-known areas.
8 & 9) PORTLAND BILL: The unmistakable red and white banded lighthouse at Portland Bill is a classic attraction for landscape photographers, offering a variety of compositions.
10) DURDLE DOOR: Waves lap against the shore of Durdle Door, one of the Jurassic Coast's most iconic landmarks.

lighthouse that sits prominently near the coast. The lighthouse can be included as a backdrop to many wide-angle pictures captured from the weathered limestone ledges all around here. Less obvious, but equally appealing, is Pulpit Rock, which is reached by walking west out of the car park. This stack, hewn out of the cliff in 1875, is a remnant to Portland's rich quarrying history. The ledges below offer ideal lead-in lines, especially at high tide when waves crash over them. Be careful – being so far south into the sea it does feel very exposed and the waves can crash against the limestone rocks with exceptional force. Even when shooting from a safe vantage point, keep your filters clean as sea spray can be problematic.



Start Shooting

📷 Things to shoot: Iconic coastal scenery including famous sea stacks, natural arches, and unique geology. Both clifftop and beach views. Foreground interest is plentiful. Visit at sunrise or sunset, depending on the time of year.

📷 Recommended kit: Wide-angle lenses, ND Grads, tripod, wellies.

🕒 When to go: The Jurassic Coast can be great for photography at any time of year, but is at its best during the winter months when you can capture the sun rising and setting over the sea. This also offers the chance of shooting the coast with side lighting.

🌊 Tide info: Use AyeTides app to find out tides for the local area. Use Weymouth for Portland and Lulworth for the Purbecks.



Keep shooting! Other great locations near the Jurassic Coast



1) CORFE CASTLE

Also located in the Purbecks, Corfe Castle is a remarkable alternative location if conditions don't favour the coast. The classic view of the castle from West Hill is best photographed with a zoom lens at sunrise, especially if you're lucky enough to witness morning mist.



2) KINGSTON LACY BEECH AVENUE

The B3082 road from Blandford to Wimborne boasts one of the most attractive avenue of beech trees to be found anywhere in the country. The ancient beech trees stretch for two miles across the road forming a beautiful and extremely photogenic tunnel.



3) KNOWLTON CHURCH

The abandoned ruins of Knowlton Church are situated within a large Neolithic henge, surrounded by peaceful rolling countryside. This spiritual location has an air of ethereal mystery about it, and at either ends of the day can make for incredibly evocative photos.

IMAGES: ADAM BURTON



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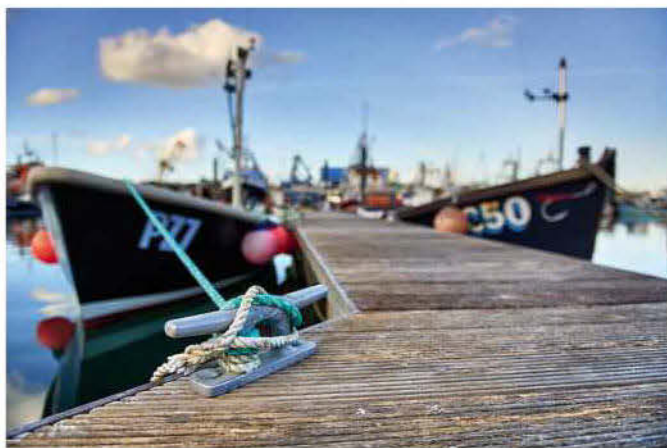
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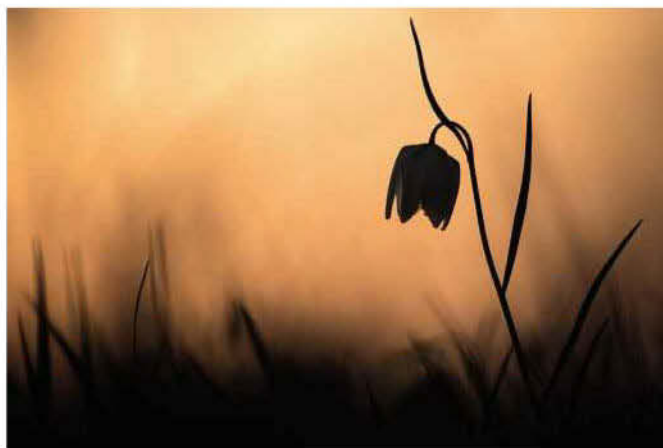


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A SPRINKLING OF GLITTER ADDS PIZZAZZ TO PORTRAITS



p28 **BREAK THE RULES:** SHOOT SCENICS USING A WIDE APERTURE



p34 **FLOWER SILHOUETTE:** CAPTURE STRIKING WILDFLOWER IMAGES



p42 **TIME STACKING:** CREATE UNIQUE TIME-LAPSE LANDSCAPES



p46 **EDIT TIME STACKS** HOW TO COMBINE YOUR TIME-LAPSE IMAGES





WIDEN YOUR POTENTIAL

PRO PHOTOGRAPHER HELEN DIXON SHARES HER ADVICE FOR HOW TO SHOOT LANDSCAPES WIDE OPEN

CAMERA: NIKON D810 / LENS: NIKKOR AF-S 24-70MM F/2.8G

LANDSCAPE PHOTOGRAPHERS generally want to capture every single detail in a scene, which is why we can get so pedantic about apertures and hyperfocal distance. So why would we even consider shooting wide open? Surely that's a technique best left to the portrait photographers –

landscapes are always better represented when sharp, front to back, right? Wrong! It might be the less travelled road, but some photographers might argue it leads to more creative destinations and challenges you to see a wider potential in your chosen landscape. Surprisingly, shooting with a wide open aperture is a

refreshing way to work. The approach is much the same as if you were capturing the scene with a small aperture, only you don't have to worry about every little detail being in focus. It means you can move a lot closer to your foreground subject without dreading your background will be out of focus.

THE KIT YOU need is no different to shooting standard landscapes: a decent camera; a tripod, ideally with a removable centre column for low-level shooting; and a wide-angle lens. It's the perfect choice to allow you to get really close to your foreground subject while maintaining a field-of-view that can include enough of the background. The closer you get to your foreground subject, the shallower the depth-of-field will be, so smaller objects often work better than larger ones for this type of landscape. It's important to also remember that the longer the focal length: the narrower the field-of-view, so while it can be tempting to isolate a foreground subject you are likely to lose most of your background.

For this shoot I headed to the Cornish coast as it has a vast array of suitable subjects for foreground subjects – items that I'd usually disregard for being too small for foreground matter for my usual coastal landscapes. I first concentrated on a port with moored boats as the piers, ropes and lines of the boats could all be good elements for strong compositions.

● **PICKING YOUR SUBJECT:** When considering your choices for what to shoot, think about your background: you'll need to keep some interest throughout the scene to maintain a strong composition. Although the area will be out of focus, what you see should complement your foreground subject and complete the overall composition. Look for details to use as your foreground that complement the scene and can be given context by the background.



● **SELECT YOUR EXPOSURE:** Set your camera to aperture-priority mode or manual mode, whichever you prefer. Most lenses do not perform their best at their widest aperture; introducing chromatic aberration and lens vignetting. Post-production can minimise, but not eliminate, these side-effects, so you might find that you achieve better image quality by closing down the aperture a stop from its maximum to improve sharpness, as well as focus throughout the foreground.



TECHNIQUE: Master your focusing for top-notch images



Your focusing technique has to be just as precise, if not more so, than if you were trying to capture a scene sharp front to back. As you're working with limited depth-of-field, your focusing has to be spot-on. Although you will probably have a fast shutter speed when shooting wide open, it might be easier to achieve optimal focus using a tripod and keeping the camera static to stop any movement from your point of focus. Even a couple of millimetres will affect the sharpness and leave you with a shot that's soft throughout. Use single-point AF or, better still, manual focus.

FOREGROUND SOFT FOCUS



FOREGROUND SHARP FOCUS



● **COMPOSING:** How you compose your image and link the foreground with the background, as well as your shooting distance, are crucial to the success of shooting wide open. Look for leading lines to connect elements and control the viewers' gaze through the frame (A). Try to balance the composition as a whole and leave some distance in front of your foreground subject (B).

GET ON BOARD WITH WIDE APERTURES

At 24mm I could focus on the anchor pin while using the blurred lines of the jetty and ropes to control the viewers' eyes.

Exposure: 1/60sec at f/2.8 (ISO 64)





● **FOOTPRINTS:** You cannot shoot on the beach and not try to capture footprints in the sand; their simple composition works well when shooting wide open, too. Find an area that has been walked on moments after a receded tide to eliminate messy and multiple lines of prints. Watch out for the lighting: avoid overhead sun and wait until it's low in the sky to give the footprints depth and contrast. Get low to the ground and fill the frame with the first footprint. Having the prints lead towards a focal point, like a person, in the distance gives the scene context (A).



TECHNIQUE: *Point of focus*



It might be tempting to focus on a subject in the distance, rather than the foreground, but this can look messy and distracting. Focus on a point that is no more than a third of the way into the frame to capture a gradual softness in the foreground as well as the background to engage the eye in the frame. Focusing on a subject too close to the front of the frame, or too far into the distance, can result in an unbalanced composition. By focusing on a distant subject, the foreground will be distracting and too much of the background will be in focus for it to look appealing.

“**FOCUS ON A POINT NO MORE THAN A THIRD OF THE WAY INTO THE FRAME TO CAPTURE A GRADUAL SOFTNESS IN THE FOREGROUND**”



● **VIEWPOINT AND FOCUSING DISTANCE:** Where possible, position your camera eye level with your foreground for a more comfortable viewpoint and vary your distance from your focal point to assess the effect it has on your background. Even when using the same aperture, the results can be significantly different. By taking a wider view at f/2.8 (C), the background is soft but overpowers the image; whereas getting closer to the lamp (D) compresses the depth-of-field and makes it the main focus of the image.



FOOTPRINTS IN THE SAND

By changing my shooting direction so that the sun was 45° to the footprints, it created shadows that helped them stand out.

Exposure: 1/1000sec at f/3.5 (ISO 100)



WILDFLOWER SILHOUETTES

ROSS HODDINOTT REVEALS HOW THE DAY'S LAST LIGHT IS A PERFECT BACKDROP FOR STRIKING FLORAL SHOTS

CAMERA: NIKON D750 / **LENSES:** NIKKOR AF-S 200MM MICRO F/4 ED & AF-S 80-400MM F/4.5-5.6G ED

THE 'GOLDEN HOURS' are well known among scenic photographers for their drama and mood, but landscapes are not the only subject that will benefit from being shot in early morning or late evening light. Soft, warm sunlight will help highlight the delicacy, shape and beauty of flowers – wild or cultivated. Therefore, if you are heading to local gardens, meadows or woodland with your camera this summer, arrive early or stay late if you wish to capture images with genuine atmosphere.

Morning or evening sunlight possesses wonderful and photogenic natural warmth, which suits subjects like flora.

Backlighting will highlight the translucency of petals and leaves, or you could even go one step further and silhouette your subject to highlight its shape and form.

Low viewpoints often suit flowers – not only do they look more natural, but a low perspective will often help your subject stand out against its background. Therefore, be prepared to get down and dirty to achieve the most flattering, attractive results. A beanbag can often prove the most practical form of support, while a digital SLR with a vari-angle or tilting LCD can prove advantageous when composing and focusing images at awkward angles.





1 SET-UP EARLY Arrive early to locate pristine subjects growing in suitable positions. By doing so, you can ensure you are set up and ready to shoot when the light is good – not rushing around frantically searching for the perfect specimen. Look for flowers in prime condition that you can easily separate from their surroundings.



2 LIGHTING Consider the sun's position in relation to your subject. When backlighting or silhouetting a flower, look for subjects you can align with the setting sun, growing in a position with a clear view to the horizon. While low-contrast, overcast light is good for capturing detail and colour, it lacks the drama of low, directional light.



3 SETTINGS A shallow depth-of-field will help you to isolate your subject, throwing surrounding foliage out of focus – try using a large aperture, in the region of f/4. Longer focal lengths also help – the long end of a telezoom will often prove ideal. A right-angle finder, or articulated LCD, will make composing low-level shots much easier.



4 WAIT FOR THE LIGHT The best things come to those who wait – as is often the case for photography. Wait until the sun is low in the sky – gentle, soft light will highlight your subject's design. By shooting towards the light and backlighting your subject, you can capture dramatic wildflower images. A lens hood will help prevent flare.

COMMON PROBLEMS AND HOW TO AVOID THEM...



● Distracting backgrounds

Consider the backdrop. Grasses, twigs, or other flowers can be distracting. Alter your shooting position, use a shallow depth-of-field, or gently flatten grasses. Don't pick or cut other flowers, though.



● Pristine subjects

For silhouettes, it becomes less of an issue but, when capturing detail, it is essential your subject is in peak condition – in close-up, even the smallest imperfection will be obvious.



● Plain background

Bright white skies rarely make good backgrounds. Avoid them in favour of clean, natural backgrounds – for example, diffused foliage, a deep blue sky, or a vibrant morning or evening sky.



● Too much foreground

Keep compositions simple and balanced. Placing your subject on an intersecting third often works best. Avoid including too much foreground – it can dominate your composition.

LATE BLOOMER

Colour in the sky at sunrise and sunset will make for an attractive backdrop. Meter for the brighter sky using spot metering or use exposure compensation in order to throw your subject into silhouette.

Exposure: 1/400sec at f/4.5 (ISO 800)



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**PHOTO
SKILLS**

A GLITTERING AFFAIR

FOR A BUNCH OF SELF-PROFESSED PHOTO GEEKS, WE TRY TO STAY ON TREND – AT LEAST WHEN IT COMES TO PHOTOGRAPHY – AND BLOWING GLITTER IS A LATEST CRAZE. CAROLINE SCHMIDT SHOWS YOU HOW...

CAMERA: NIKON D800 / LENS: NIKKOR AF-S 50MM F/1.8

DO AN ONLINE search on Google or Pinterest for 'blowing glitter' and you'll be inundated with portraits of this trend. It can be done using glitter, sparkling dust, small sequins, blossom or confetti depending on the style of shot you want. You need a shallow depth-of-field, so choose a fast lens like a 50mm f/1.8; a standard zoom can also work at its widest aperture though get as close as you can to the subject. If you're concerned about a glitter-covered camera, use a fast telephoto lens to put some distance between you. The closer the glitter or sequins get to the lens, the bigger the bokeh and the more magical the image. It's a beautiful effect that gives dynamic life to a portrait.

1 LIGHTING: Different lighting angles produce different effects, but you should follow the basics of portrait lighting and avoid harsh, direct sunlight – a diffuser solves this problem easily. Side- and back-lighting will make glitter sparkle, and highlight translucent confetti – use a reflector to gently fill in shadows on your subject. Soft, front lighting, as I've used here, creates an even exposure.



2 DIAL IN YOUR SETTINGS: Set your camera to aperture-priority mode and dial in a wide aperture of f/3.5 or faster: the wider the better, in my opinion. You will want a shutter speed of at least 1/800sec, but again the faster the better, so increase your ISO until you find a shutter speed that works for you. You'll have a better chance of capturing 'the shot' if you set your camera to shoot in continuous high-speed bursts, too.



3 CHOOSE YOUR FOCUSING MODE: You can use autofocus and hope that your camera locks on to the fine grains of glitter, but it will be hit or miss and you'll find yourself going through a lot of glitter at the best of times! Instead, use single-point AF on your point of focus (see step 4), or pre-focus on the area where you think the glitter will float and ask your subject to remain still. If you're using a wide aperture, focus carefully and be aware that your plane of focus will be very thin.



4 WHERE TO FOCUS: There are choices of focus for this type of shot: your subject's eyes (A) or the glitter (B). Your choice is largely dependent on personal style as well as your model. By focusing on the subject's eyes, all the glitter will be out of focus and create dazzling bokeh. If you focus on the finger tips or the pool of glitter in the palms of their hands, you will blur the subject's face as well as glitter in the foreground, giving you only a slither of particles that are sharp.

5 POSING: If your subject squints or pulls a distracting face when they blow (it's very easy to do so) ask them to look down at their hands to avoid their expression spoiling your shot. Alternatively compose your portrait to crop their face below their eyes and focus on the glitter in their hands (C). Ask them to cup their hand/s, but keep their fingers as straight as possible, to drop their shoulders rather than hunch, and to draw their hands close to their mouth so they only need to blow softly.



STARS IN YOUR EYES

While iridescent fine glitter can look beautiful in the right light, sequins work well no matter the lighting conditions.

Exposure: 1/8000sec at f/1.4 (ISO 320)



SHOOT A TIME STACK

MAKE YOUR SKIES STUN BY CREATING A MIND-BLOWING LANDSCAPE USING A TIME-LAPSE TECHNIQUE. JORDAN BUTTERS SHOWS YOU HOW TO SHOOT A CLOUD SEQUENCE FOR IMPACTFUL PICTURES

CAMERA: NIKON D800 / **LENS:** NIKKOR AF-S 24-70MM F/2.8G

I CAME ACROSS THIS technique after seeing the fantastic work of 500px member Matt Molloy (500px.com/mattmolloy). The methods involved in the capture side of things are identical to if you were shooting a time-lapse video sequence, however the key difference is that rather than compiling the shots into a video, you overlay the exposures into a single image during processing using a 'Lighten' blend mode

(see page 46 for details). This has the effect of smearing clouds into unusual and eye-catching patterns. It's actually the exact same processing technique used to compile star-trail images!

A windy day will allow you to shoot more movement in a shorter period of time – I shot this tutorial on a relatively still day and, as such, it took around 20 minutes and 600 exposures to compile the final image.



● **EQUIPMENT:** There are a few pieces of kit that you'll need. A wide-angle lens is preferable – ideally a 10-20mm on an APS-C sensor or 16-35mm on full-frame – or else a standard zoom will do. You'll need a good tripod, preferably with a hook to weigh it down if it's windy. An intervalometer is essential and automates the process, triggering your camera every few seconds without you having to press the shutter – these can be had for around £10-15 on eBay or Amazon. Finally, a set of ND grad filters will allow you to balance your exposures.



1 CHOOSE A LOCATION Wide vistas work, as do scenes with structures such as pylons, buildings or turbines – these create contrast for the moving clouds. The technique works best when the sun is behind you, or to the side during the day, or in front of you at sunrise or sunset. Check the wind direction too – the effect looks best when clouds are moving towards or away from you, rather than across the frame.



2 FIND THE RIGHT SETTINGS With your camera on a tripod, compose to include plenty of sky. Select aperture-priority mode and a mid-aperture. Set your focus point and then lock your lens to manual focus to stop the focus from changing. In order to fit more shots onto your memory card, and speed up processing, switch your camera to shoot fine JPEG rather than Raw. Take a test shot and check the histogram.

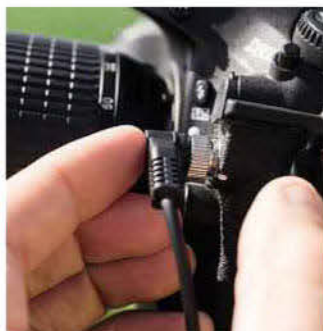


3 FINE TUNE EXPOSURE You should expose for the brightest part of the scene – usually the highlights in the clouds. This may leave the foreground underexposed, so fit an ND grad filter if necessary to obtain a balanced exposure. I've weighted my histogram to the left to prevent blowing out the clouds. As we'll be dealing with a high number of files we want to get as much right in camera as possible.



4 SWITCH TO MANUAL We want no fluctuation in exposure or White Balance between exposures, so we now need to set everything to manual. Select manual exposure mode and, using your test shot as reference, dial the appropriate exposure settings. Set the White Balance to suit the scene – Daylight WB works well for me. If it's a windy day, it's a good idea to hang your camera bag from your tripod to stop it moving about.





5 SET YOUR INTERVALS Your choice of interval depends on the level of cloud movement and the look you want in your final shot. Fast-moving clouds required a shorter interval between shots than slow ones. A larger interval will create a 'stuttered' effect in the clouds when you compile the time stack, whereas a short interval will create a smoother look. I've opted for a two-second interval between shots.

6 START SHOOTING Press start on your intervalometer and you're away. The number of shots you need depends on the level of cloud movement, but it's best to shoot too many rather than not enough – you don't have to use them all when it comes to compiling it. Watch the sky as you're shooting to gain a measure of how quickly the clouds pass and their direction – it will help you envisage how the final image will look once compiled.



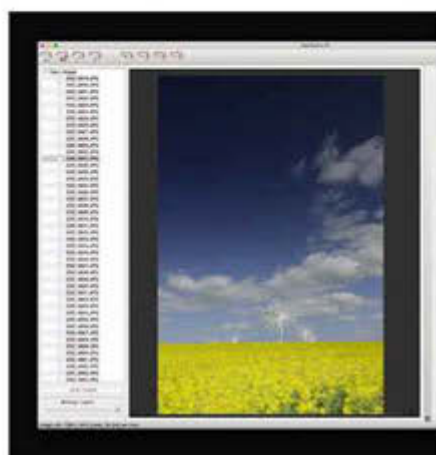
Edit your time stack

WITH YOUR TIME LAPSE TAKEN, IT'S TIME TO BLEND THE RESULTS TOGETHER INTO A SINGLE, UNIQUE TIME-STACK IMAGE. HERE'S HOW TO DO IT...

THERE ARE TWO ways to compile your time-lapse images into a single file – the quick and easy way, or the hard, lengthy way. The hard way involves cutting and pasting each and every one of your exposures as a new layer onto the previous and setting that layer's Blend Mode to Lighten. The easy way involves simply downloading a clever (and free) piece of software called

StarStax (http://bit.do/DSLR_starstax) and letting it do all the hard work for you – I'm going to go with the latter.

Once stacked, you can choose to leave it at that, however the resulting image usually ends up looking a bit flat, as the multiple exposures even out the lighting. However, a few select tweaks to contrast and to enhance the sky are all that's needed for a cracking final image.



1 STACK THE IMAGES Download your images and open up the StarStax app. Click on the **Open images...** button in the top left and select all of the images that you wish to stack. Make sure the Blending Mode is set to **Lighten** and press the **Start Processing** button. It'll take a while to process – once done make sure you press **Save As...** to save the results.



2 FIND A NEW FOREGROUND Open the stacked JPEG in Photoshop. There has been a lot of movement recorded in the foreground in my image, which has turned it into a yellow mess. I'm going to replace the foreground with one from a single exposure to improve it. Search through your shots and find a foreground image that you're happy with.



3 CHANGE THE FOREGROUND On your chosen foreground image, go to **Select>All** and then **Edit>Copy**. Back in your stacked image, go to **Edit>Paste**. Then, go to **Layer>Layer Mask>Hide All**. Use the **Brush tool**, with your colour set to **Black**, and a soft-edged brush, to reveal your foreground on your image, taking care where it meets the sky.



4 ADD CONTRAST Foreground improved, the image is still flat – click on **Add new fill or adjustment layer** in the Layers palette and select **Curves**. In the Adjustments palette, create a subtle S-curve – darkening the shadows and brightening the highlights to add contrast. Be careful not to push the highlights too far and to lose cloud detail.



5 ADD MORE CONTRAST Create a second Curves adjustment layer, as before – this time focusing on just the sky. Create a second S-curve in the Adjustments palette to boost contrast in the sky. Once done, select the **Brush tool** with **Black** set as your Foreground Color and brush over the foreground so that the increase in contrast only affects the sky.



6 BOOST CLARITY An optional step is to boost clarity in the clouds. Hold down the **alt** key and go to **Layer>Merge Visible**. Then, go to **Filter>Sharpen>Unsharp Mask**. Increase the **Amount** to **75%** and **Radius** to **90 Pixels** and click **OK**. Next, click on **Add Layer Mask** in the layers palette and use your **Brush tool**, as before, to mask the effect from all but the sky.

WELL STACKED!

You may find that the increase in contrast and clarity over-saturates the sky. If so, simply go to *Image>Adjustments>Hue/Saturation* and reduce the saturation.





THE EXPERT: *Dean Smith*



Leading automotive photographer Dean Smith has over seven years' experience shooting cars, having worked for some of the world's leading motoring titles and manufacturers. Dean's work takes him around the globe, from photographing press shots in the Welsh mountains to shooting super cars in the Italian Alps. www.deanphoto.com

Dean's kit: Nikon D4s, NIKKOR AF-S 24-70mm f/2.8 & AF-S 70-200mm f/2.8, Lee Filters system, Hitech grads, 105mm Heliopan CPL, Gitzo tripod, Manfrotto suction cups, EVO-C bags, Calumet reflector, two-way radios, AutoGlym Rapid Detailer plus lots of microfibre towels!

THE PUPIL: *Bill Jefferies*



Laboratory assistant hailing from Essex, Bill picked up his first DSLR just two years ago, heading to a local racetrack to hone his skills. Since then, he's become completely hooked on motorsport photography and is keen to learn what's required to progress this into shooting all types of cars. This will be his first time shooting a street-legal car on public roads.

Bill's kit: Nikon D750, NIKKOR AF-S 16-35mm f/4G & AF-S 70-200mm f/2.8G, Hoya polariser



CHASING CARS

EACH MONTH WE GIVE ONE READER THE CHANCE TO TEAM UP WITH A LEADING PROFESSIONAL FOR AN EXCLUSIVE ONE-TO-ONE PHOTO WORKSHOP. THIS MONTH, PRO PHOTOGRAPHER DEAN SMITH AND READER BILL JEFFERIES TAKE ON SHOOTING CARS. WITH A HIGH-END PORSCHE AS THEIR SUBJECT AND CHANGEABLE WEATHER, HOW WILL THEY DO?

PHOTOGRAPHING CARS IS relatively straightforward, however making your shots look professional and stand out above the rest is where the real challenges lie. For all intents and purposes a car is a box of awkward reflections and angles, so doing justice to their form in still images is no mean feat. There are countless ways to shoot them – sitting static, driving along, car-to-car, using a rig, interior shots, exterior shots and

so on – each demanding its own set of unique techniques, tricks and skills.

In this month's workshop, we've enlisted the help of top automotive photographer Dean Smith. A former staff photographer for *Evo* magazine, Dean is now one of the world's most revered car photographers. While you can create striking shots with any car, Porsche UK have kindly supplied us with a 911 Targa 4 for the day, as Dean guides

motorsport enthusiast Bill Jefferies through his approach to shooting in the countryside.

Bill likes shooting motorsports, but hasn't photographed a road-going car before. While he's happy with the basics, he wants to learn some of the tricks of the trade. The weather was to be a challenge, with everything from sudden downpours to glorious sunshine forecast. Dean explains how they got on...

IT'S GOOD TO INCLUDE THE DRIVER, AS IT HELPS EVOKE THE FEELING OF DRIVING THE CAR DOWN A COUNTRY LANE, WHICH IS THE ULTIMATE AIM

CHALLENGE 1: USING A RIG

"Rig shots, or 'bolt-ons', are a staple part of automotive photography. By fixing the camera to a rig attached to the car, you can use a slow shutter speed to give the impression of speed, as the world around the car flies past while the car itself is sharp. In reality, the car is often not moving more than two to three miles per hour, but in the image it looks much faster!

"While many choose to attach their camera to a long pole or 'boom', this often isn't practical, and can mean lots of camera shake, resulting in a loss of sharpness. I prefer to use a tall Gitzo GT5562GTS tripod, which is fixed to the car using suction cups and clamps – this compact set-up allows me to create dynamic images that convey plenty of motion, from a more involved and intimate angle, with increased sharpness over a traditional rig.

"As Bill hasn't attempted a bolt-on shot before, I want him to choose his composition rather than me set up the shot for him. I advise him that it's good to include the driver, as it helps evoke the feeling of driving the car down a country lane, which is the ultimate aim. Another must is to always try to show a wheel spinning; without it your brain tells you that the car's moving but your eyes can't see it, so it can appear to be flying down the road. A portrait-format image suits the tree-lined road we would be using, too.

"Bill uses an AF-S 16-35mm f/4G lens on his Nikon D750, but I advise him not to go wider than 24mm, as the car will start to distort. After a few minutes assessing the angles, he finds a nice composition and so we set up the rig. I attach the legs of the tripod to the car using Manfrotto suction cups and clamps, while Bill readies his camera and fits a remote release. As we're



shooting in bright conditions, we use a three-stop ND filter to extend the exposure time, and a circular polariser rotated to control the reflections on the paint and glass. With our set-up complete, a quick test shot offers an exposure of three seconds at f/20 (ISO 100), which gives us plenty of time to convey motion.

"Three of the main considerations when setting up this kind of shot include: finding a picturesque backdrop, choosing a quiet road without much traffic and making sure there's room to pull to one side when a car does come along; safety is paramount, and you shouldn't ever inconvenience other road users. Parked at the side of the road we make some final checks – it's the small details that make these shots really stand out. I always adjust the mirrors so that the driver can see the camera – that way the image records the driver's reflection, further connecting the viewer. A final check for dust and dirt and any signs of the rig in the frame or reflections in the bodywork and we're good to go – I'll usually shoot bolt-ons into the sun too, as this eliminates the chance of the tripod's shadow sneaking into the frame.

"Motion blur looks the same whether the car is rolling forwards or backwards – I start to roll the car back slowly before putting the car into neutral. If the car vibrates a lot when



- 1) Bill contemplates life and the universe while we wait for the right light conditions to begin shooting.
- 2) Rolling the car slowly while Bill triggers the shutter.
- 3) The result is a dynamic image with loads of motion.

the engine is on I'll often get an assistant to roll the car by hand, but it's not necessary today. As I slowly roll backward, Bill walks alongside the car triggering the shutter, getting in as many shots as he can before a passing car needs us to pull over. Two or three repetitions and a quick review of the camera shows us that we're on to a winner. Before uncoupling the rig, I advise Bill to take a shorter exposure with the car stationary – there was some movement recorded in my arms as I steered the car. By taking a shorter stationary exposure, we can composite the sharp interior and driver into the long exposure shot to ensure that it's pin-sharp throughout."

CHALLENGE 1 Pro verdict

"I threw Bill in at the deep end here with a complex set-up. He's completely new to this type of shoot, and it differs hugely to his usual fodder. After some initial hesitation regarding composition, he grasped the idea with both hands and we came out with a great shot that looks awesome in print. One down!"



BILL'S FAVOURITE SHOT

We were only rolling backwards at one or two miles per hour, but the final image looks as if the car was speeding forward!

Exposure: Three seconds at f/20 (ISO 100)



CHALLENGE 2: A CLASSIC STATIC

"We move on to our second location, a relatively narrow lane that I know of nearby with a nice gentle ascent leading into the distance. Having a good catalogue of possible locations is important when you do my job, as you can't rely on the same roads time and time again and what works for one car might not work for the next.

"As we arrive it quickly becomes apparent that we're fighting the weather: the sun

appears briefly between heavy rain showers. While we sit in the car waiting for a downpour to pass I advise Bill that while I'd usually use a tripod for this type of shot, he's probably going to have to shoot handheld, allowing him to work quickly within the brief windows of light, and so that we can react quickly to move out of the way of any passing traffic.

"Composition and an eye for detail are everything when it comes to static shots like this – there's no motion blur or action to distract the eye or hide any untidiness.

I tell Bill to use the road to lead into the car, but placing the car so that there's plenty of road ahead of it – again, the idea is to make the viewer want to jump in the car and drive up the road. As I often shoot editorial work, I'll usually compose shots like this left-to-right, as that's how our eyes read a page, and after looking through the viewfinder, Bill agrees. He's getting to grips with slowing down and paying attention to the details – very different to the frantic world of motorsport. He composes the shot to exclude any messy areas of road or scruffy

“WHEN DECIDING ON HOW TO BEST PRESENT THE CAR MY RULE IS THAT IF THE CAR DOES SOMETHING UNIQUE, OR UNUSUAL, THEN SHOW IT OFF”



BILL'S FAVOURITE SHOT

A brief moment of sun and another great image. A strong lead-in line carries your eye to the car and off into the distance.

Exposure: 1/250sec at f/5 (ISO 100)



- 1) Making sure the car is spotless before starting is vital.
- 2) Dean guides Bill through how he'd compose this shot for maximum impact, using the road as a lead-in line.
- 3) It's a good idea to have an assistant in the car, but ducked down out of view, ready to move it if a vehicle comes along.

PRO TIP: KEEP OFF THE GRASS!

"My number one rule for car photography is never, ever, shoot a car parked on grass. It's not a lawn mower, it doesn't belong on grass! Always consider the environment that the car is intended to be used in when choosing a location – sports cars, for example, look great when they're photographed sparkling and clean on twisty country roads with scenic views. However, if I was shooting a four-wheel drive vehicle, such as a Range Rover or similar, then I might decide to leave some mud on and shoot it somewhere a bit more off the beaten track to show it in its natural environment"

CHALLENGE 2 Pro verdict

"What may seem, on the surface, to be a relatively simple shot actually demands a lot of energy and attention. Not only were we frantically cleaning and drying the car between downpours, but it's the little details and considered composition that elevates Bill's shot above a simple snap. All of the elements in the frame complement the car and nothing else fights for your attention – good job!"

verges, using the white line to lead up to the car and off into the distance. I also explain that when deciding on camera height he needs to make sure that the lines of the horizon don't clash with the car, allowing for considered and intentional separation between all elements in the frame.

"When deciding on how best to present the car, my rule of thumb is that if the car does something unique, or has an unusual feature, then we have to find a way to show that off. Our Porsche 911 has a special folding targa roof so, despite the passing

rain showers, we need to have the roof down to highlight this feature.

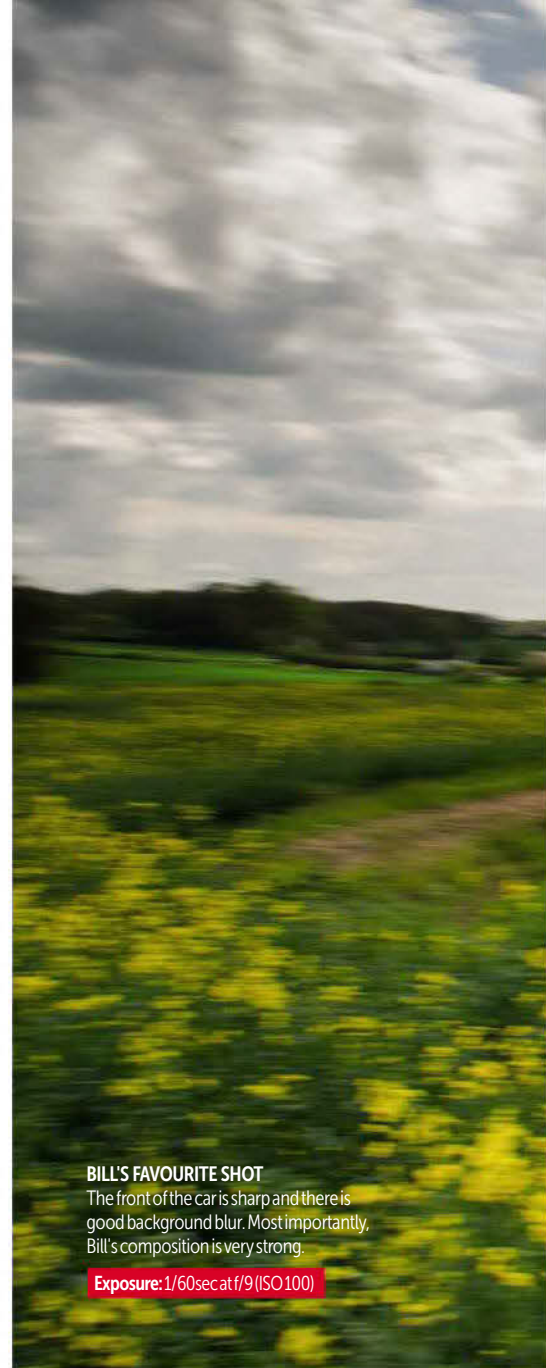
"Bill uses his AF-S 70-200mm f/2.8G lens to compress the perspective for this shot, allowing him to make more of the fantastic winding road. An aperture of f/5 keeps the car in focus front-to-back, whilst offering good sharpness and an attractive depth-of-field. Again, he uses a polarising filter to control the reflections on the car. We have barely enough time to grab a few shots before the rain hammers down again, but thankfully Bill's got another keeper."



1



2



BILL'S FAVOURITE SHOT

The front of the car is sharp and there is good background blur. Most importantly, Bill's composition is very strong.

Exposure: 1/60sec at f/9 (ISO 100)

CHALLENGE 3: MOVING THROUGH SCENERY

"Wide, sweeping scenic shots can be the most eye-catching and impressive of all automotive images, and tend to be popular with my editorial clients as they suit magazine layouts well, particularly over a double-page spread where there's plenty of room for text. By showing the car relatively small in the frame you encourage the viewer to explore the entire image and, if you're clever with your composition, you can guide their eye exactly where you want it to go.

"Locations such as Snowdonia, Scotland and the Peak District are perfect for this type of shot but, as we're under the constraints of time and locality, we have to make do with somewhere slightly less epic. We head to a series of S-bends that I know of nearby that offer wide-reaching views when shot from the right angle. There are several choices as to which bends we shoot and where to place the car, with a bank that allows us to overlook the road, with lots of choice for composition.



3

- 1) Bill tries an alternative composition, shooting from low down for a completely different kind of shot.
- 2) Bill tries out a wide variety of angles and camera heights.
- 3 & 4) Talking composition – Dean advises Bill on how he'd frame the shot, making the most of the windy road and view.

"Bill's experience in motorsport photography helps here – I explain that if he chooses a fast shutter speed we'll lose all sense of movement from the car and it could look like it's parked, so a slower shutter and panning the car as it passes would be best. As he has no problem with the technique side of the shot, we focus on achieving a really strong composition. Before introducing the car we move into



4



“BILL’S SUCCESS RATE IMPROVES AND BEFORE LONG HE’S NAILED A CRACKING COMPOSITION AS THE CAR ROUNDS THE SECOND BEND”

place and work out the best angle. Liking the look of the foreground grasses, Bill decides to shoot the car during the first corner of the S-bend, with the road as a curving lead-in line to the car. Using a long range two-way radio to give the signal, our assistant makes several passes in the car while I advise and help Bill between passes.

“There’s a good degree of motion blur in Bill’s shots, as he’s shooting at between 1/80sec and 1/125sec, but he’s missing focus occasionally. I explain that the best place to put his focus point is the car’s front number plate; this ensures that the most important part of the car – the front – is pin-sharp, and also the high-contrast black lettering on white background makes it easier for the camera’s AF system to lock on.

The car’s position in the frame could be improved, so I suggest moving further up the bank to incorporate some of the colourful rapeseed in the foreground, and to shoot during the second turn of the S-bend, when the car is closer.

“Having focused on the number plate, Bill’s success rate improves and before long he’s captured a cracking composition as the Porsche rounds the second bend, with the front end pin-sharp and a good degree of blur in the surroundings. Panning shots like this are a numbers game – the more you shoot, the higher chances you have of getting the shot you want.”

CHALLENGE 3 *Pro verdict*

“I had little to no worries about Bill’s technique when it came to panning, as he’s used to shooting passing cars. When shooting cars on the road, for the type of work that I do, you have to put more time and thought into the composition, which Bill has started to do. Everything in the frame has to be considered.”



PRO TIP: ALTERNATIVE VIEW

“Don’t be afraid to part-obscure the car when shooting motion shots, especially if there’s a feature of the car that the composition suits or highlights. As the 911 Targa has such a distinctive roof line, we head into a nearby field and Bill tries panning a profile shot of the car as it passes against a sea of colourful rapeseed. With fine adjustments to Bill’s position and camera height, he’s able to shoot this cracking side-on view, with that distinctive roof line passing by – it doesn’t matter that the rest of the car is obscured, the shot has interest and the car is instantly recognisable.”



BONUS CHALLENGE: AN EYE FOR DETAIL

"Between our main shoots of the day, I suggest that Bill turns his hand to some detail shots of the car. Quite often these are used as small inset images in car magazines, so it'll be good for him to learn what details to focus on and how to best accentuate them. Wheels, badges, lines in the car's bodywork, and interior objects such as the rev counter, steering wheel and gear knob are all perfect subjects.

"While we waited for the downpours to subside during our static shoot, I showed Bill how I would go about making the most of the dreary conditions for shooting details. Beads of rain on bright paint add interest when shooting exterior badges, for example – and we had no shortage of rain! Shooting in aperture-priority mode, Bill was unsure of how much depth-of-field to use when photographing the Porsche's badge on the bonnet. The temptation is to shoot wide open and enjoy all that lovely bokeh, however you have to consider your audience, and how recognisable the badge is before you blur it into oblivion. For a press shot, whereby the badge needs to be readable by a wide range of people – from auto enthusiasts to your average Joe reading the Sunday papers – a larger depth-of-field is preferred, certainly enough to be able to read the whole badge. When shooting for an enthusiast magazine, such as *Evo*, or when shooting an easily recognisable badge, then you can open up the aperture and get away with a bit more blur.

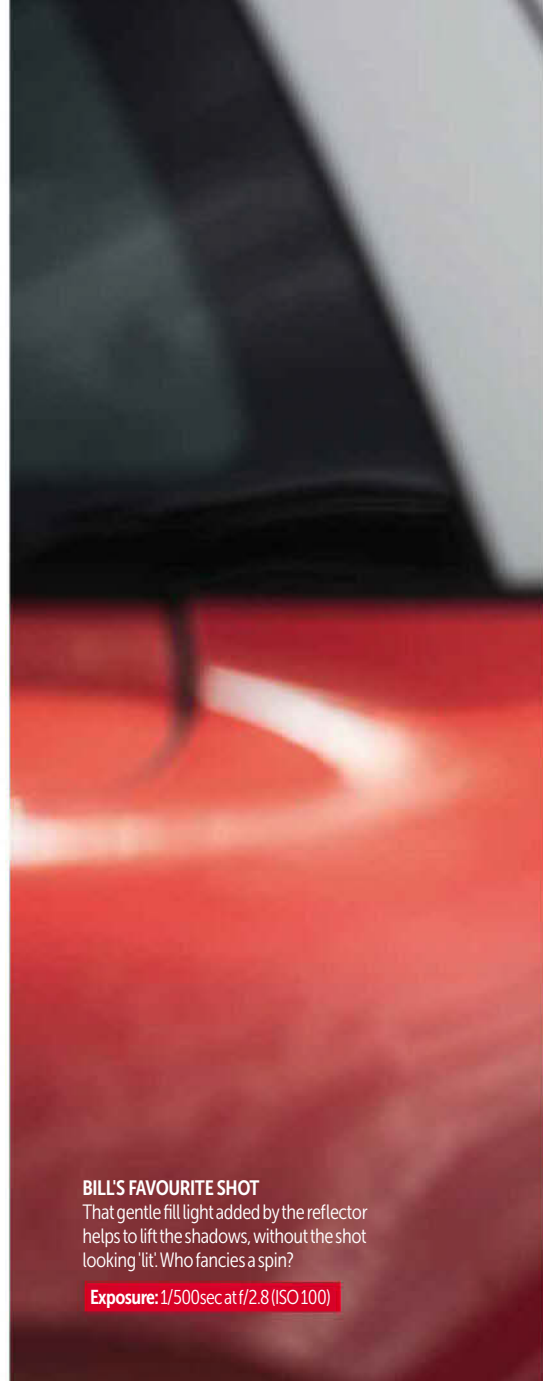
"The angle of light is important too – details are best shot when side-lit, and never with the sun behind you. This works for our badge shot as the side lighting highlights the beads of water. Once again, look out for distractions and reflections – there's nothing worse than getting home from a shoot and spotting yourself or something equally awful in a reflection and not being able to do anything about it.



“A REFLECTOR IS YOUR BEST FRIEND WHEN IT COMES TO DETAIL SHOTS – THEY'RE CHEAP, EASY TO MANAGE AND A LITTLE BIT OF FILL LIGHT CAN MAKE ALL THE DIFFERENCE”



"Following our panning shots later on in the day, I decide to get Bill to shoot a couple more details in the late afternoon sun. After a quick clean, we start off with a wheel shot – I show Bill how I'd compose a shot like this, choosing a portrait orientation and turning the wheel to face the camera slightly. One tip that I offer is to always make sure that any badges, such as those in the centre of the wheels, are the right way up – it's easy to do when positioning the car so there are no excuses. A reflector is your best



BILL'S FAVOURITE SHOT

That gentle fill light added by the reflector helps to lift the shadows, without the shot looking 'lit'. Who fancies a spin?

Exposure: 1/500sec at f/2.8 (ISO 100)



friend when it comes to detail shots – setting up lights is cumbersome, takes time and is a pain when shooting in the real world. A reflector is cheap, easy to manage and a little bit of fill light can make all the difference. A mid-aperture allows Bill to capture a pin-sharp shot and the reflector lifts the wheel from the shadows.

"Finally, we close on a nice interior shot. Bill's really getting to grips with noticing the details and invoking a feeling with his shots. He gets me to manoeuvre the car to face up



the open road. With the driver's door open and the winding road ahead you couldn't ask for a more inviting proposition! I always shoot interiors from the driver's side – again, it's about evoking the feeling of wanting to drive, and it's the side that you'd want to be approaching the car from.

"As the car is facing the sun, the dash and steering wheel are in shadow – this is where the reflector comes in handy again. Angled to illuminate the wheel, the shot is spot on straight out of the camera. A reflector is all you need to light these detail shots."

CHALLENGE 4 *Pro verdict*

"Shooting detail shots isn't the most exciting thing in the world, but it just goes to show that if you slow the process down and pay attention to the small details you can create simple shots that stand out. When paired with the rest of what Bill captured, these shots accentuate the set nicely. I'd say that he's come away with a really strong, varied set of images."

162) Before drying off the car, Dean shows Bill how to use the beads of water to add interest to exterior detail shots.

3) Shooting towards the light reduces awkward glare as Dean bounces light back onto the steering wheel with a reflector.

465) Dean carefully lines up the wheel so that the badge is upright and the reflected light illuminates the spokes.

WORKSHOP SUMMARY: *Bill Jefferies*



"Having spent most of my free time travelling the country shooting at various racetracks, I jumped at the chance to have the opportunity to work alongside Dean. I'm a

long-time admirer of his work and appreciate the natural simplicity of his style. I often process my images to make them more interesting, however with Dean's help I've learnt to pay more attention to what I create in-camera. It was inspiring to see what we were able to produce from the scene in front of us – Dean's eye for composition is incredible. It was fantastic to be able to try such a varied amount of work in one day and Dean ensured that everything was extremely enjoyable and informative."

Expert critique

WANT YOUR SHOTS CRITIQUED BY THE *DIGITAL SLR PHOTOGRAPHY* EXPERTS? TURN TO PAGE 63 TO FIND OUT HOW TO SUBMIT IMAGES

CONNAUGHT ROAD, HONG KONG ➔

by Edward Ha

Canon EOS 5D Mk II with Canon EF 24-70mm f/2.8L USM lens.
Exposure: 15 seconds at f/13 (ISO 200).

What we think: Edward's image certainly packs in plenty of energy – it reminds us of electrical currents surging along wires and through electrical junctions, if such a thing could be photographed! The lighting here was tricky, with the tungsten street lamps clashing with the whiter head lamps and surrounding buildings. Edward has handled it well, but we'd be tempted to drag the yellow channel down a bit to give the image a colder, more futuristic feel. We quite like the jaunty angle here as it makes the shot seem dynamic and energetic.

Why it works

- ✓ Well exposed with good light trails
- ✓ Slanted angle adds edge and energy
- ✓ Strong composition





ANOTHER END OF THE DAY

by Artur Tomaz

Canon EOS 6D with Canon EF 70-200mm f/4L USM lens.
Exposure: 48 seconds at f/32 (ISO 100).

What we think: Who can resist a bit of radiation mist? No self-respecting photographer that's who! Artur has done the right thing here in using a telephoto lens to compress perspective, creating that layered effect with mist sandwiched between the hills. His choice of such a small aperture is unusual, as he could have used a wider aperture, and thus a shorter shutter speed, alongside hyperfocal focusing for the same front-to-back sharpness. His image quality would probably be better for it too. Nonetheless, a good effort and a nice shot!

Why it works

- ✓ High vantage point works for conditions
- ✓ Cool colour contrasts with hint of red in sky
- ✓ Telezoom lens compresses perspective

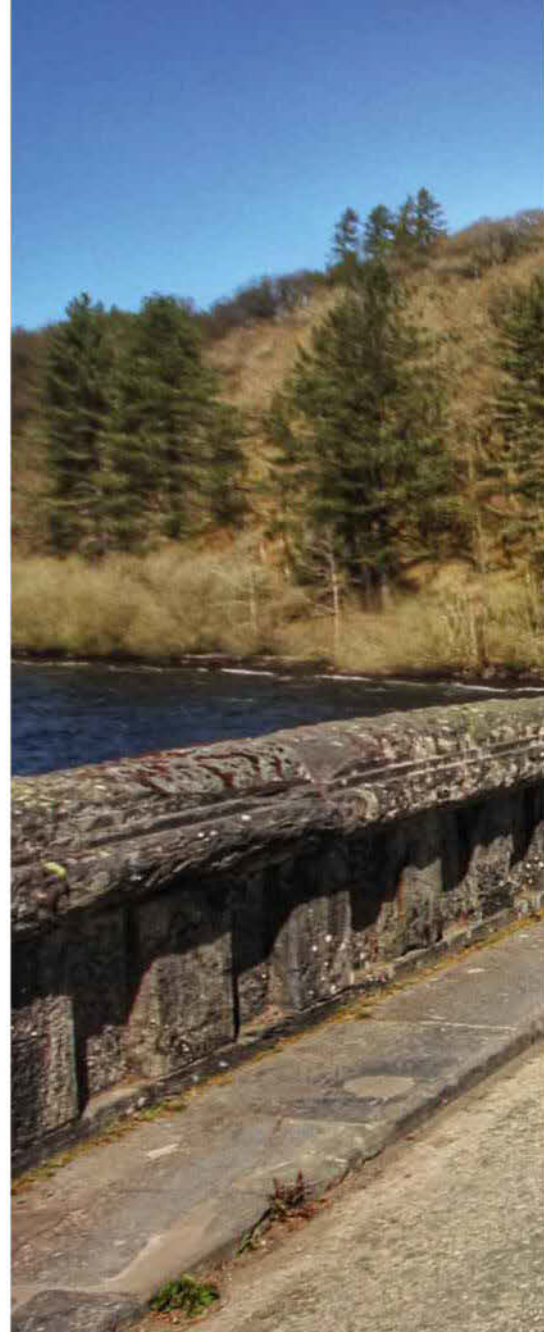


HELEN DIXON

LANDSCAPE & PANORAMIC EXPERT Helen Dixon



"Twilight is a wonderful time to photograph the changing light and Artur has captured the calm atmosphere and tranquillity of this time of day perfectly, the misty layers are separated nicely and I also like the contrast between the cool and warm hues. Although personally I think the sky has been a little over-saturated and some of the detail has been lost as a consequence. As I'm unfamiliar with the location, I am not sure what Artur wanted to avoid at the bottom of the frame but, for me, the tightly cropped composition is top heavy and unbalanced. I would also clone out the street lights to stop the eye being drawn down and provide more space at the bottom of the frame. Artur has clearly opted for the right optic (70-200mm) to capture the distant landscape and compress the layers, although I do question why he has selected f/32? An aperture between f/8 – f/11 would retain maximum image quality and capture the depth-of-field needed for image sharpness. Despite this, Artur has still captured a pleasing atmospheric shot."



📍 BATHING MACAQUE

by Russell Pearson

Nikon D7000 with NIKKOR AF-S 18-135mm f/3.5-5.6 lens.
Exposure: 1/500sec at f/4.2 (ISO 400).

What we think: Wow – this menacing macaque portrait really caught our eye. Unless we're mistaken, this was probably shot at the Jigokudani Monkey Park in Japan, where the macaques enjoy the hot natural springs in winter.

Russell's portrait is excellent, his composition is spot-on. Portrait format suits the scene, placing the macaque's eyes on the top third and its arm acts as a natural lead-in line to the shot. There's pin-sharp focusing on those glaring eyes and a wide aperture has rendered the macaques in the background recognisable, yet subtly out of focus so as not to be a distraction. You can just make out the ethereal mist rising behind the bathing monkey – perfect!

We're not sure how Russell could have improved on this shot. Possibly lifting the main macaque's face with some careful selective dodging in processing would help it really pop against its surroundings?



Why it works

- 1) Tack-sharp focusing on the eyes
- 2) Arm acts as a strong lead-in line
- 3) Background blurred, yet recognisable

📍 CROSSING THE CONTINENTAL

by Rob Hyslop

Canon Rebel T5i with Sigma EX 10-20mm f/4-5.6 lens.
Exposure: 1/400sec at f/5.6 (ISO 100).

What we think: Rob explained to us how this photo was taken during a test drive on a public road over a dam in Wales, so he was a little rushed in grabbing the shot and subsequently left his camera in shutter-priority mode by mistake. Regardless, it's a cracking location and the central composition works given the symmetry of the surroundings. Rob's focusing is sharp and the wide-angle lens and wide-to-mid aperture (although not intentional!) has rendered the car sharp enough front-to-back. A circular polariser has helped deal with reflections. The car's roof line clashes slightly with the sides of the dam – we're not sure if it's possible but a little extra elevation would have created separation between car and surroundings. All in all not a bad effort, but more time spent preparing for the shot would yield stronger results next time.



AUTOMOTIVE EXPERT

Jordan Butters



"Grabbing quick shots on public roads is always tricky – it's enough to make the best forget the basics."

I really like this location, but feel Rob's choice of view doesn't do it justice – surely the reservoir to the left is a better backdrop than the trees behind the car? I'd have opted for a three-quarter shot rather than front on, giving space around the car for its environment to shine too.

Speaking of shine – if you've read our *Photo Workshop* article on page 48 then you'll know that rule one is to make sure that the car is clean. I like that Rob has taken the time to hide the number plate in processing, but spending that time giving the car a quick clean before shooting would have been more productive. I'd have also asked the passenger to step out of the car too – the driver can often stay in place, or duck down to avoid being seen – he's on hand to move the car quickly if another car comes along that way."



JORDAN BUTTERS



Focal length: 90mm · Exposure: F/8, 1/50 sec · ISO 800

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- ✓ If submitting images by post, remember to include your 'mugshot' and contact details (name, address, email and daytime number).
- ✓ Please don't send us high-res images by email: resize your shots to 1,000 pixels along the longest edge and if we see something we like, we'll request the high-res file from you!
- ✓ Emails exceeding 8MB total size might not arrive, so split your submission down into two or more emails to ensure they get through.
- ✓ Please don't send us your entire portfolio – as you may appreciate we receive a lot of submissions and aren't able to look through hundreds of images – narrow the selection down and pick your best shots only.

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The Ultimate Photo Guide

COLOUR

COLOUR IS A CRUCIAL PART OF PHOTOGRAPHY. NOT ONLY DOES IT GIVE OUR IMAGES A SENSE OF REALISM, BUT IT CAN ALSO INFLUENCE THEIR MOOD AND THE WAY THE VIEWER RESPONDS TO THEM. OVER THE NEXT 14 PAGES WE'LL EXPLORE COLOUR IN ITS MANY FORMS, AND HELP YOU MAKE THE MOST OF IT

IMAGE: LEE FROST





COLOUR ESSENTIALS

BEFORE EXPLORING COLOUR WE SHOULD START AT THE BEGINNING – WHAT IS COLOUR, HOW IS IT CREATED AND WHICH COLOURS WORK TOGETHER?

WHAT'S YOUR FAVOURITE colour? Red, blue, maybe purple? Everyone tends to have a favourite, and often for no apparent reason than at some stage we decide we like one more than the others!

Colour's like that. It affects different people in different ways, but for better or worse, it does affect us, and the way we see the world. Some colours are loud and brash, others are soft and gentle. Some colours go well together while others clash horribly. Colour can be strong or weak, warm or cold, natural or man-made. Different colours also have great symbolic value. Red is for danger, anger, love and fire. Blue is for cold, peace, tranquillity, the sea and sky. Green reminds us of nature, the environment, health and freshness. By bearing these factors in mind you can use the power of colour to great effect, both creatively and emotively.

● COLOUR BASICS

The first step to understanding colour is to know how it's created. It's actually all down to light – the stuff that makes photography possible! Light in the visible spectrum consists of colour wavelengths that range from warm to cold. Think of a rainbow, which is created when light is refracted by raindrops and divided into individual colours.

The colour of an object is created because it absorbs certain wavelengths of light and reflects others. A blue car appears so because the paintwork reflects blue light and absorbs all the other colours. Foliage is green because it absorbs all but green wavelengths. Where an object reflects more than one colour, the colour we see is a combination of wavelengths – orange is formed when red and yellow wavelengths are reflected.

● DOMINANT & RECESSIVE COLOURS

Some colours have more power than others and demand more visual attention. Generally speaking, warm colours such as red, orange and yellow are more dominant than cool colours such as green, blue and purple.

Warm colours are also said to 'advance' because they stand out – red does this most of all. Even in small amounts, red dominates compositions as it screams for attention. Cool hues, conversely, are said to 'recede'.

You can use these properties to good effect in your photographs. If you combine a warm colour with a cool colour, the warmer colour will always dominate the shot, while the cooler colour will form an effective background. Ideally you should make sure that blues and green are used as the background colour and that reds, yellows and oranges appear in front of cooler colours – though by intentionally reversing this, so the cooler colour is against the warmer colour, you'll jar the senses and create interesting images.

The strength of a colour is also affected by the colour behind it. Red looks more intense and vibrant against black than against white or against a cool colour such as blue than a warm colour such as yellow or orange.

● COLOUR TEMPERATURE

As well as creating colour, light can also take on a colour due to the time of day and conditions. When all the colour wavelengths in the visible spectrum are present in equal quantities the result is white light or neutral light – you'll find this in clear, sunny weather during the middle of the day. When some wavelengths are more evident than others, however, the colour of the light changes. At sunrise and sunset, for example, the light is warm because as it travels to earth from the sun, blue and green wavelengths are absorbed by the atmosphere so there's a greater concentration of warm wavelengths. Conversely, in mountainous regions where the air is 'thinner', more wavelengths at the warmer end of the spectrum are absorbed so the light is cooler. Artificial light sources also have different colours. Tungsten light bulbs produce light with a yellow/orange colour while fluorescent is green and neon is red.

These changes in the colour of light are referred to as colour temperature and measured using a unit called Kelvin (K). The cooler the light is, the higher its colour



Above & inset: Early morning or late evening light appears warm, hence the popular photographic term 'the golden hour'. Conversely, the light during dusk and early dawn appears cool.

temperature while the warmer the light is, the lower it's colour temperature. Daylight at high altitude can have a colour temperature as high as 10,000K whereas at sunrise or sunset it may be as low as 2,500K.

We tend not to see these colours so clearly because our eyes can adapt quickly, so if the light is warm or cool, everything appears normal. An exception is when two different colours of light are seen together. If you're sat in a room lit by tungsten lighting at dusk, for example, the light in that room will appear neutral – but if you look out of the window, the light outside will seem blue. This is because your brain has cooled down the warm light in the room, so the cooler daylight outside appears even bluer. With a DSLR, adjusting the White Balance (WB)

setting gets rid of colour casts caused by the colour temperature of the light. In tungsten lighting use the Tungsten WB preset. If you're shooting in the shade where the light is cool, use Shade WB to warm up your images and so on. Daylight WB is intended for use when shooting outdoors in normal conditions, though many photographers prefer Auto White Balance (AWB) as it's effective at getting rid of minor colour casts and provides a compromise if light sources are mixed – when shooting urban scenes at night, for example.

If you shoot in Raw you can also correct colour casts during processing, so if you take a shot in tungsten light using Daylight WB and it comes out with a yellow/orange cast, you can get rid of it later. Easy!

“SOME COLOURS ARE LOUD AND BRASH, OTHERS ARE SOFT AND GENTLE. SOME COLOURS GO WELL TOGETHER WHILE OTHERS CLASH HORRIBLY”



● THE COLOUR WHEEL

An easy way to understand how different colours relate to each other is by placing them on a colour wheel. Sir Isaac Newton was the first person to do this back in the 17th century and artists and designers have been using colour wheels ever since.

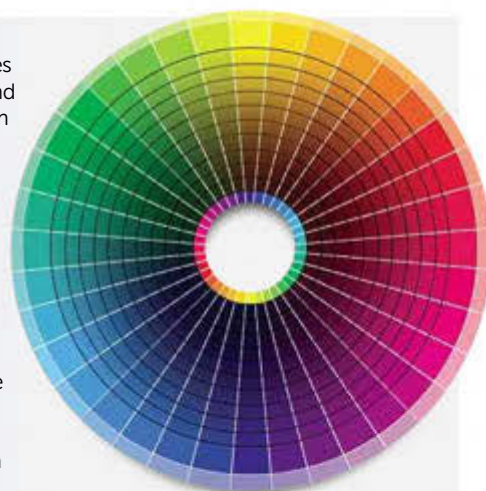
Red, yellow and blue are known as primary colours. They're pure colours that can't be formed by mixing other colours, but all other colours are formed by combining them.

Green, orange and purple are secondary colours. They're formed by mixing two primary colours together. Yellow and blue form green; blue and red form purple; red and yellow form orange. On the wheel, secondary colours sit between primary colours.

If you mix a primary colour with a secondary colour you produce a tertiary colour – yellow-orange; red-orange; red-purple; blue-purple;

blue-green; yellow-green. These three types of colour form the modern colour wheel and represent the colours in the visible spectrum – red, orange, yellow, green, blue, indigo, violet. All the colours of a rainbow!

Colours that lie close to each other on the colour wheel are said to be harmonious or analogous because they work well together – such as yellow and green or blue and purple or red and orange. Colours that are far apart on the colour wheel are said to be contrasting, because they clash, such as yellow and blue or red and blue. Colours that are directly opposite each other are known as complementary colours and they also form strong contrasts – such as red and green or blue and orange. This harmony and discord can be put to great use in your photographs, of which more will be discussed later.



The colour wheel should be your first port of call when it comes to deciding which colours work together in your images and which do not.

COLOUR IN NATURE

COLOUR IS ALL AROUND US, SO MUCH SO THAT WE OFTEN TAKE IT FOR GRANTED – HONE YOUR EYE TO NOTICE AND CONSIDER THE COLOURS IN NATURE



LEE FROST

THINK OF nature and specific colours come to mind – primarily the blue of the sky and the green of the landscape. Both colours symbolise freshness, freedom, open space, health, vitality and life.

The countryside is the place to find colour harmony, as nature thrives on it: the soft shades of brown, yellow and orange during autumn, all of which work well together photographically, the many shades of green during spring and early summer as fresh foliage bursts into life and the wondrous sight of woodland floors carpeted with bluebells. Photographers love bluebells, even though they can be a pain to capture well.

Meadows and fields of wild flowers will keep you occupied for hours as you can shoot everything from wide-angle views to close-ups. Use slow shutter speeds to create impressionist streaks of blurred grasses and blooms swaying in the wind or fill the frame with your zoom for harmonious abstracts.

You can also find fantastic colour contrasts in the landscape – the eye-catching yellow of shimmering oilseed rape and fields of sunflowers beneath a cloudless blue sky, or banks of red poppies against a backdrop of green trees. Visit a well-stocked garden and you'll see the rest of the colour spectrum – purple, pink, violet and orange – in abundance in the many varieties of flower that grow.

Early morning is a magical time to photograph the landscape. Soft, golden sunlight adds a beautiful warm cast to everything it touches and in doing so creates perfect colour harmony. Set your White Balance to Cloudy or Shade to enhance this effect. If there's mist hanging around it will soften the colours even more and you can't fail to capture beautiful images. Once the sun starts to rise into a clear sky, the colour

NATURE TIP *Go abstract!*

You can create eye-catching colour abstracts by panning your camera vertically while photographing vibrant woodland, so the tree trunks record as vertical streaks against a backdrop of blurry foliage. Experiment with shutter speeds from 1/15sec to 1/4sec. Bluebell woods are perfect for this technique.



temperature of the light also increases so any warmth fades away. The sky turns deep blue and neutral colour temperatures reveal other colours in their natural form. It's an ideal time of day to capture vivid colour, using a polarising filter to cut through glare and haze so clarity and colour saturation are enhanced. In calm weather, head for water and shoot still reflections of the surrounding scenery to fill the frame with colour. A 0.3 (one-stop) ND grad filter covering the sky and landscape will balance the exposure with the reflection, though you can always do that during post-production.

The middle of the day is not ideal for landscape photography as the light's quite harsh, though if bold colours are your goal – we're thinking fields of flowers or lush foliage and a polarised sky – it can be a productive time of day. Saying that, you're just as likely to get cloudy, overcast days in

HELEN DIXON



“IN CALM WEATHER, HEAD FOR WATER AND PHOTOGRAPH PERFECT REFLECTIONS OF THE SURROUNDING SCENERY TO FILL THE FRAME WITH COLOUR”

the UK when an overhead sun won't matter much and provides the perfect conditions for capturing softer colours – autumnal foliage spilling down hillsides and reflecting in rivers, lush green woodland flanking gentle streams and tumbling waterfalls.

When you're out in the countryside, look for colour contradictions, where man and nature collide to create interesting photo opportunities. A blood-red telephone box at the end of a lonely road; a brightly-coloured shed in the middle of desolate moorland. It's quite common to see things like this in



Top left: Natural colours often compliment each other – the dark brown horse looks at home against the muted yellows. **Above:** Nature is also capable of the most vibrant displays of colour – poppies are a favourite with photographers.

the Highlands and Islands of Scotland and, though your initial reaction may be negative because such sights jar the senses, they can make great photographs.

Don't forget wildlife too. Many animals and birds blend in well with their natural habitat and create more opportunities to shoot colour harmony, whether it's a backlit owl perched on a fence post in the evening sun, or a cheetah skulking through the parched African bush. On a more accessible level: horses and ponies grazing in grassy meadows can look beautiful or even the family's pet cat playing hide and seek in your garden. We tend not to equate wildlife with colour, but it's as relevant as any other subject and can be an immense source of inspiration.

● POLARISING POWER

When it comes to maximising colour strength, a polarising filter is invaluable. It'll cut through glare on nonmetallic surfaces so colour saturation is increased and, if you keep the sun to your side, blue sky will also be deeper and more vibrant. Clarity is also improved as a polariser cuts through haze and contrast is increased so colours appear crisper. Polarisers generally have a stronger effect in sunny weather when there's more polarised light, and also during the morning and afternoon when the sun's at a lower angle in the sky. Saying that, woodland shots taken in dull or damp weather will benefit greatly from the use of a polariser as it will get rid of the sheen on the foliage that saps saturation. Just pop the polariser on your lens and rotate it slowly while looking through the viewfinder until you get the desired effect.



COLOUR IN URBAN SCENES

IT'S NOT ALL GREY TARMAC, GLOOMY BUILDINGS AND HUMDRUM HUES. EXPLORE YOUR LOCAL CITY AND YOU'RE SURE TO FIND A PLEASING PALETTE TO PLAY WITH

MAN THRIVES ON colour, so what better place to find it than in the bustling urban landscape? We use colour to make a statement, grab attention and stand out from the crowd, so you never have to go very far to find it in abundance and a few hours spent in any town or city is likely to reap handsome rewards.

Architecture is a good starting point. Modern buildings such as apartments and office blocks often use colourful materials in their construction so they're less of an eyesore. The same applies to commercial buildings or retail parks.

Look for bold blocks of colour and see how many different shots you can take, experimenting with composition and angle.

You don't have to include a whole window or a whole door, for example – how about just a corner of it creeping into the frame? Taking a more abstract approach often produces more interesting images because the subject no longer matters – it's the colour that counts and how you frame it.

Parked vehicles offer lots of potential. Coaches, buses and trucks often have colourful graphics on their bodywork that make eye-catching details if you move in close and fill the frame. Look at what's behind them too. A red car in front of a blue, green or yellow wall is going to make a great shot. In fact if you find a good background it's worth waiting a while to see if something or someone colourful passes in front of it, such as a person wearing a colourful coat or carrying a bright umbrella.

Markets are well worth checking out for vibrant patterns – fruit and vegetables laid out in lines, stacks of plastic buckets, mops,

brooms and racks of clothes. You might get some funny looks as you shoot boxes of bananas or tubs of fresh tomatoes but take no notice – they don't know what we know!

Graffiti may upset many people, but there's no denying that it can be the source of fantastic photographs. It adds colour to drab old buildings and depressed areas, and this contrast can look stunning. How about reducing colour saturation in everything but the graffiti, so it stands out even more?

If the weather turns foul you can always head indoors. Modern hotels, bars and clubs often incorporate colourful lighting schemes into their designs and they can turn

ordinary interiors into dazzling displays. Stained glass windows are another winning subject, and although we normally associate them with churches, stained glass is sometimes used in modern architecture too.

Capturing urban colour is all about attitude and confidence. Throw the rule

book out of the window (not literally!) and take some risks. Make the most of your lenses and the way they change apparent perspective. A telezoom is ideal not only for isolating areas of colour, but also for compressing perspective so the elements in a scene appear much closer together. This allows you to juxtapose different elements so they work together.

Wide-angle lenses do the opposite. They stretch perspective so the elements in a scene seem further apart, but this means that even slight changes of viewpoint make a big difference to the composition and you can pull seemingly disparate features together in a single shot – great when you're shooting colourful architecture with all those conflicting angles and bold lines.

PRO TIP

Although we normally advise you to avoid the middle hours of the day as the light's too harsh, when you're shooting urban colour, strong light can work in your favour. Dark shadows add a graphic element and a polariser will cut through glare.



ALL IMAGES: LEE ROST

● USE YOUR PHONE

You don't need a fancy camera to take great urban colour photographs – the camera in your smartphone is more than up to the job, and also great fun to use because it's so small and light. In fact, why not set yourself a project to shoot a series of colour images using just your phone, and see how you get on? There are loads of fantastic photography apps available these days to make your phone's camera more versatile, such as Hipstamatic, which lets you choose different (virtual) film and lens combinations, each one producing images with their own unique look. Best of all, there's no post-production needed because the app does it all, so you can wander around, snapping away to your heart's content and when you get home the finished images can be downloaded. A downside of using a smartphone to take photographs is that it's highly addictive!

Below left: Colour is often vibrant in urban locations. Placing contrasting colours together can work well.

Right: Try using a twilight sky as your backdrop – the cold blue contrasts well with a warm colour in the foreground.

Experiment with different angles too – blue sky makes for a brilliant backdrop in colourful compositions and by getting down low with a wide-angle lens you can capture contrasting colours against the sky – a building, parked car, road signs or shop signs. The wider the lens and the lower you go, the wackier the composition as you can also throw distortion into the mix, which adds impact and dynamism to your images.

Finally, if you want to be completely off the wall, how about shooting colourful zoom bursts? Graffiti, buses, parked cars, stained glass windows, signs, billboards – anything bold and vibrant is an ideal subject. Compose the shot with a zoom lens at its widest focal length, then as you trip the shutter, zoom the lens to the other end of the focal length range so your subject records as an explosion of streaks radiating out from the centre. Experiment with shutter speeds from 1/15sec down to 1/2sec and vary the rate at which you zoom the lens. You may find it easier to tripod-mount the camera, but hand-holding is fine too. It may take a few attempts to get it right, but the results can look great.





COLOUR IN CLOSE-UPS

GRAB A MACRO LENS OR EXTENSION TUBES AND TAKE A CLOSER, MORE DETAILED LOOK AT COLOUR

COLOUR DOESN'T ALWAYS have to be on a large scale – it can also be found in very small amounts too. The natural world can be incredibly colourful in close-up – a quick look around your garden in spring and summer will provide plenty of evidence of that. Flowers come in so many shapes, sizes and varieties and make a perfect subject for colourful close-ups. No garden? You can visit a public space where you'll find beautiful blooms, or pop to your local florist and buy some – good florists often sell flowers individually so you can buy a mixture rather than a bunch of the same type.

Some flowers are more photogenic than others. Bold varieties such as gerbera, tulips, lilies and sunflowers offer great potential and can be photographed in numerous different ways. You can shoot flower portraits, arranging one or two in front of a sheet of colourful card. Contrasting colours work well, so if the flowers are yellow, use a blue background for example, or a green background for red flowers. Soft, shadowless lighting will reveal the richness of the colours perfectly – window light is ideal. A standard zoom will usually focus close enough for shots like this.

If you have a 1:1 macro lens you can shoot fantastic flower abstracts by moving in really close, focusing on the tip or edge of a petal and setting the lens to its widest aperture so depth-of-field is reduced to just a few millimetres. The slightest change of camera position or shift of focus will transform the look of the image so you can produce a wide range of different shots from a single flower. Lilies are particularly good for this differential focusing technique.

Food can be very colourful. Fruits such as lemons, limes, oranges, vivid green kiwi, strawberries and raspberries are ideal – the list goes on. Peppers, chillies and tomatoes all offer potential. Pop to a local market and shoot colourful close-ups of the produce on sale – it's often arranged in neat rows or piles. Or buy a range of colourful foods from your local supermarket and set up some shots.

The same applies with sweets. Smarties, M&Ms, gummy bears, Love Hearts, Skittles, almost any type you can think of makes great subjects for colourful close-ups. You could shoot a whole series of images. Empty each packet onto a flat surface then move in and fill the frame with the random patterns, or arrange them carefully for more ordered compositions. When you're done, eat the lot!

If macro photography is your thing, you'll know that the natural world in close-up can



● COLOURFUL CREATIONS

If you're struggling to find good close-ups naturally, why not create your own mini still-lives? Have a look around the house and you'll find all kinds of things that can be used as props. How about laying out a set of colour pencils then shooting the sharpened nibs or filling the frame with a pattern of coloured stripes? Coloured paperclips or drawing pins can be scattered on a sheet of colourful paper. If you've got young kids, have a rummage through the toy cupboard for magnetic letters, building blocks, pots of paint or other small vibrant objects. You don't need fancy lighting for your still-life, just set it up near a window or open door and use the natural daylight flooding in to illuminate it. A large sheet of white paper or card placed opposite the light source can be used as a reflector to bounce light into the shadow areas.

Right: There is a huge range of harmonious hues available if you look closely. Focusing on a small area often renders the subject abstract, making the colour stand out further.

be incredibly colourful. Butterflies, moths and insects make perfect subjects and if you can capture them on flowers or plants you'll add even more colour to the mix. Bees and wasps are vibrant when you see them in close-up. So are dragonflies, damselflies and grasshoppers. Attach your camera to a microscope and you can capture colour that the human eye can't even see – the

amazing detail in the compound eyes of flies and insects, the colours in crystals, the cell structure in flowers and plants. The closer you go, the more colourful nature tends to become.

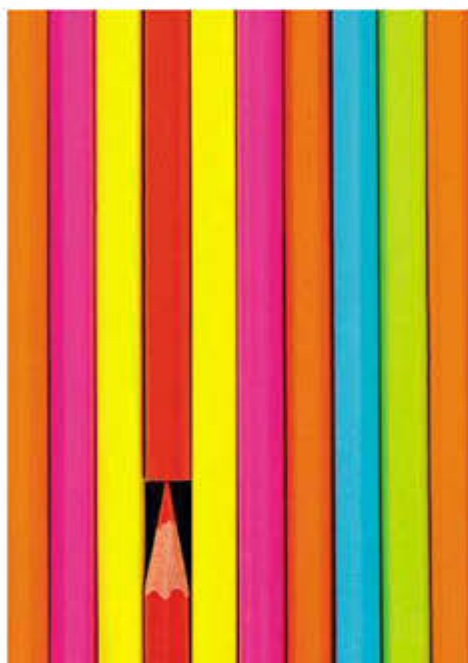
On a more accessible level, why not create colourful abstract close-ups? Try dropping colourful plastic objects into a bowl, or stand a clear bowl on some strips of coloured paper, fill that bowl with soapy water then home-in on the bubbles on the surface, which will appear colourful because of the objects in the bowl.

Another idea, which works brilliantly, is to put a few drops of washing-up liquid into a tumbler of water then add drops of olive oil. The soap in the water causes the oil to bead so you get patterns of oil droplets on and in the water that pick up the colour of the objects you place under the tumbler – bits of paper or coloured feathers are ideal.

PRO TIP

If you don't have a macro lens, buy a +10 supplementary close-up lens from Amazon for under £10 and screw it to the front of your standard zoom so you can focus really close.





ALL IMAGES: ROSS HODDINOTT

COLOUR THEMES

THINK YOU'RE READY TO START USING COLOUR TO ITS FULL POTENTIAL IN YOUR IMAGES? HERE ARE SOME GREAT THEMES AND IDEAS TO TRY OUT TODAY...



LEE FROST

● LET ONE COLOUR DOMINATE

Although it's tempting to fill the frame with lots of vibrant, clashing colours, you can also produce great shots by sticking to a single colour. In its simplest form this literally can mean homing in on an area of colour, such as a door or a wall, but look for spaces with pattern or texture to avoid a boring photograph, regardless of the colour!

It's also easy enough to create your own single-colour still-lives by placing objects together that are all the same colour. Bottles, flowers, and fruit and vegetables work well. Backlighting slices of fruit then shooting them with a macro lens is also fun.

Look for scenes or subjects where there are different shades of the same colour. You can find this in the urban landscape if you look hard enough, but it's more prevalent in nature where the colour palette is subtle and limited. Green is an obvious one as it's such a

common colour in the spring and summer – think of deciduous woodland in full foliage, or the patchwork of fields in the landscape. Come autumn, the russets, browns and golds in the landscape tend to merge together and look beautiful.

Light can be a great ally here, adding or creating a colour all of its own. Shoot at sunrise or sunset and your images will take on a yellow or orange hue due to the warmth in the light. This is often strong enough to obliterate all other colours in the scene, especially if there's mist around, which helps soft colours to merge into one. Shooting in tungsten or candle light and not correcting the colour cast will achieve the same effect. In cloudy weather, especially before sunrise and after sunset, you may also find that your images take on a blue cast. You can correct this if you like, but don't be in too much of a hurry as it can add mood and mystery.

● SATURATION POINT

Strong colours make a statement: they're bold and brash. We notice people wearing brightly-coloured clothes and colourful cars catch our eye. Bold colours attract our attention, beckon us in, warn us. Well, it's the same in photography.

Strong colours are suited to simple, bold subjects – architecture, reflections, statues, graffiti, patterns and abstracts. The colours are often more important than the subject itself because they're what attracts attention, so you need to pare down the composition to a few elements and colours or the results will be cluttered. Think less is more.

The quality and strength of light dictates how vivid colours record. When the sun shines everything looks wonderful and we assume that colour saturation reaches its maximum. But, bright sunlight causes glare, and that can dramatically reduce colour strength by creating a sheen on surfaces, so if you want your colours to 'pop' you'll need to use a polarising filter to eliminate glare.

Frontal lighting reveals colours well, but images often look flat because shadows fall away from the camera. That's fine if you're going for an abstract effect, but if you want a stronger sense of depth in your photographs, keep the sun to your side so shadows are included in the composition and add dimension and texture. Your polariser will also be far more effective on side-lit scenes.

With some subjects, bright sunlight can be too harsh as it creates shadows and highlights that obliterate detail. Flowers are a good example. They're best suited to bright, overcast conditions. Not convinced? Photograph a flower in full sun, wait for a cloud to drift in front of the sun, take another shot and compare. The colours in the cloudy shot will be richer because contrast is lower when the sunlight is briefly diffused by cloud. The same applies in woodland. Foliage appears vibrant in overcast weather as contrast is low and the light soft.



● SOFTLY DOES IT

Colour doesn't have to be bold to be beautiful. In fact, the opposite tends to apply. Vibrant primaries may catch your attention, but soft, muted colours are easier on the eye. They're atmospheric and evocative. They soothe the senses and are likely to provide extended viewing pleasure even if the initial impact is less.

You're more likely to find pastel colours in the countryside. In the landscape, soft colours are everywhere you look, though prevailing weather conditions and the quality of light do make a big difference.

Dull, cloudy weather reduces colour saturation considerably compared to bright sunlight and provides ideal conditions for capturing muted colour. The light is soft and contrast low. Overcast days provide

ideal conditions for shooting details in rocks, soft hues in woodland, the warmth of ripening crops or the pastels of wild flowers and reed beds swaying in the breeze. If you shoot wider landscapes, keep the sky to a minimum as it tends to look boring – use a telezoom to fill the frame and exclude the sky completely.

Early morning and late afternoon are good times of day to shoot soft colour. When the sun's low in the sky, the light is more subtle and warm, bringing the colours closer together.

Haze and mist have perhaps the greatest effect on colour, reducing it to delicate shades. Think of a range of hills receding into the distance at dawn, the colour of each layer in the scene becoming ever lighter with distance. Such scenes are best photographed with a telephoto lens so you can compress perspective and emphasise the effect.



LEE FROST



● HARMONY AND DISCORD

We've already established that some colours work well together and are harmonious while others clash horribly. Both relationships can be put to good use in your images.

Colours that are opposite on the colour wheel are said to contrast, whereas colours close to each other harmonise. Yellow and blue, red and green contrast strongly, for example, whereas blue and green or green and yellow are neighbours so they harmonise. This relationship between colours is important because it can have a profound effect on the impact of your images and the way the viewer responds to them.

If a composition includes contrasting colours that are bright and bold, the image will have tension and impact because it jars the senses, but images containing harmonious colour are more relaxing to look at and easier on the eye – they have a calming

effect rather than challenging our visual senses. Think of the beautiful warm colours of woodland in autumn, or the soft hues in the landscape created when mist of haze scatters the light and washes out colours.

Bright yellow against a deep, blue polarised sky is perhaps the most powerful colour contrast you can get, though red and green make a potent combination too. The effect is weakened if one colour occupies more of the shot than the other, or one colour is stronger than the other, though red is so bright that it has a strong presence even in small quantities.

Colours harmonise when they are very weak, in which case the overall feel of the image is soothing. Similarly, colours that in theory harmonise – such as blue and magenta – will clash if they are strong. The rule to remember is bold colours for contrast and weak colours for harmony, irrespective of where they are on the colour wheel.



LEE FROST

CREATIVE COLOUR

WANT TO GET CREATIVE WITH COLOUR? THINKING OUTSIDE THE BOX CAN OPEN UP A VIBRANT WORLD OF PICTURE POTENTIAL

AS YOUR UNDERSTANDING and appreciation of colour grows, you'll become more confident in the way you interpret and record it. The 'rules' of composition can be ignored or broken once you understand their importance, and it's just the same with colour. We know that some colours harmonise and others contrast. We know that bold colours are powerful and soft colours are atmospheric. But what if you start mixing things up, moving the creative goalposts and inventing your own colour language.

Sometimes a location or a situation can encourage that. You suddenly find yourself in a place where the use of colour is different to what you've become accustomed to. This often happens if you visit a different country, where the culture and climate are different and thus so is the way locals use colour. It can be a jolt to your senses, but once you get over the initial shock and let the creative juices flow, amazing images can result.

The urban landscape at night is a good example. You can walk around a town or city by day and everything looks relatively normal, but return at dusk as day turns to night and man-made illumination takes over and it's a different story. The use of artificial

“WHAT IF YOU START MIXING THINGS UP, MOVE THE CREATIVE GOALPOSTS AND INVENT YOUR OWN COLOUR LANGUAGE”

illumination creates a surreal palette of colour that would never occur naturally, no matter how hard you looked. In a single street scene you can find the vivid green of fluorescent lighting, the yellow of tungsten, the red of neon, all of which appear vibrant against the sky, which can be velvety blue or tinged by the reds, oranges and yellows created by light pollution.

Our eyes adapt to these different types of lighting, so a floodlit building or a shimmering cityscape may seem quite normal when we look at it. But our DSLRs record the colour of each light source as it really is, so you never quite know how the image will look until it pops up on your screen at the end of the exposure. Often you'll be greeted by a veritable kaleidoscope of weird and wonderful colours.

Experimenting with different White Balance presets when shooting at night can mix things up even more and produce unexpected results, because while the preset



LEE FROST

makes one type of light source look natural, it changes others. If you choose Tungsten, for example, it will make any areas of the scene lit by tungsten look normal (instead of yellow) but any areas lit by daylight will go much bluer. If you set White Balance to Incandescent, any areas lit by fluorescent lighting will come out neutral (instead of green) but areas lit by daylight will go purple.

You can also experiment with different White Balance settings during the day time. If you set Tungsten your images will come out blue, which can look really effective if you're shooting in mist or fog as it will add a cool, mysterious feel. The opposite happens if you set Cloudy or Shade – instead of being cooled down, your images will be warmed up to add atmosphere. This can work well at sunrise and sunset when colours are naturally warm but may need a little help. And remember, if you shoot in Raw you don't have to add these White Balance effects when you take the shot – you can play around with them when you process the files.

Above: Artificial illumination at night knows no bounds when it comes to colour – go for a wander in your town or city.

Right: Choose a colour and shoot a project – it's easier if you pick your favourite colour as you'll be more aware of it.

Another great benefit of digital technology is that if the colours don't look intense enough in the original image, you always have the option to boost them during processing. If you shoot in Raw you'll need to increase colour strength a little anyway, as Raw files tend to be a little on the subdued side, but you can boost the colours of any image to increase its impact.

The key is not to go too far otherwise the results will look unnatural. Instead of using the Saturation slider, which increases the saturation of all colours, use Vibrance, which only increases the saturation in colours that aren't already well-saturated. Vibrance is also subtler than Saturation so there's less chance of you being heavy-handed. In some cases you may be able to increase Vibrance to 100% and still produce reasonably natural-looking images.

CREATIVE TIP *Colour popping*

It's not everyone's cup of tea, but colour popping is a fun technique to experiment with. The basic idea is that you convert all of the image to black & white but leave one or two key elements in colour so they stand out starkly. It works particularly well on shots where you have a bold, red element, though in theory, any colour will work. The easiest way to colour pop is to open your original colour image then create a Black & White adjustment layer (**Layer > New Adjustment Layer > Black & White**). A layer mask will automatically be added so to reveal the colour of the chosen element, all you do is click on the Layer Mask icon in the Layers palette, make sure the Foreground Color is set to Black, then use the Eraser Tool or Brush Tool to rub out the Black & White layer and reveal the colour underneath. You can use a large brush for big areas but you'll need to reduce it when you're working on smaller detail or edges to get a neat result.



OLENA ZASNOCHENKO

● PICK A COLOUR

Why not choose a specific colour then challenge yourself to create a portfolio of images that consist only of that colour? Red, blue, green, yellow – the actual colour is down to you. Maybe you already have a few shots in your collection that will kick-start the project? If not, just start from scratch. Grab a camera, go for a wander and see what you can find. Head to somewhere with potential, like a market, where you know you'll find colour. Once you have a few decent shots in the bag it's easy enough to find more. You can also set up some. If you choose red, for example, buy some red flowers, a box of tomatoes and some red peppers from the local supermarket – that's three more shots straight away. Red cars are also easy enough to find; you may even have one yourself. Once you've got a reasonable number of images – maybe 20 – consider creating an art poster by putting them all on the same canvas, adding a white border and maybe a title using the Text tool in Photoshop.



ALL IMAGES: LEE FROST





PHOTO
STORY

MAKING WAVES

AUSTRALIAN PHOTOGRAPHER RAY COLLINS TALKS TO CAROLINE SCHMIDT ABOUT SHOOTING SURF, CREATING HIS SIGNATURE STYLE AND HIS APPROACH TO MAKING SPLIT-SECOND DECISIONS

Words: CAROLINE SCHMIDT

IN ASSOCIATION WITH



BIOGRAPHY



In just a few years, Ray has surfaced as a leading professional from an ocean of hobbyist photographers. Having bought his first camera in 2007 to photograph friends surfing, Ray has won multiple awards and most recently become a finalist in the 2015 Terry O'Neill Photography Awards and the prestigious Smithsonian Photo Contest. He's shot international campaigns, gained global media interest and, not to mention, become Australia's Nikon ambassador. His favourite images from the last five years are now available in a book called *Found at Sea* – of which the second edition is out this month. You can order it at: www.raycollinsphoto.com

ONE MIGHT SAY it's dedication; others lunacy, but there's no disputing that photographer Ray Collins' measures for capturing his 'signature seascapes' are worth the effort. For most people, a forecast of grey stormy conditions would not entice them out of bed before dawn, but for Ray patchy clouds with a chance of sunbeams is what draws him to the ocean for the vivid first and last light of the day. He waits patiently in the water for up to six hours a day, a kilometre from the shore, after weeks of carefully watching tides, winds and waves – all to capture the raw fleeting moment when light and water dance.

Ray's sea stills are more than barrelling waves, which are relatively easy to compose and focus; he's looking for the curls, bends, little peaks, mountains and flared backwash that make his images magnificent. Being colour blind, while a hindrance for some photographers, is a blessing for Ray as it forces him to "look at shapes and lines", he explains. He sees a scene in shades and contrast – his 'vision' is undiluted by colour and guided by the light – which he believes to be the "most important element for a successful photograph".

Ray's inspiring story is music to most aspiring professionals' ears: the product of shooting what you love with individual style. While by day, Ray maintains a job as a coal miner – during the 'magic hours' he's an international award-winning surf photographer, shooting major campaigns for the likes of *National Geographic*, Apple and Nikon – work that takes him to coastlines around the globe. "[My success] happened organically," says Ray. "Swimming was a part of my rehabilitation after a knee injury, and my friends were surfers, so I bought a camera – it was a case of learning how to use it and understanding light. After winning Australian Surf Photographer of the Year,

media interest grew and organisations that liked my work started contacting me. "Now Ray rarely photographs surfers, unless he's using them to show scale, preferring to focus on the structures of waves.

For Ray, it's not a case of hitting the beach when the surf is up and shooting every wave that rolls in; pressing the shutter button is the last step after hours or weeks of planning, plane rides and layovers. Hours spent

Clockwise from top left: Taken with an 85mm f/1.4 lens using spot metering to get a dramatic exposure at 1/640sec. The magic hours produce the best light: this image was shot at 1/800sec with a 70-200mm f/2.8 lens. Ray focuses on the curls of waves using spot metering to expose for the highlights. Ray seen from above shooting a tumbling wave.

studying weather maps, Google Earth locations, tides and winds, the exact angle of the sunrise or sunset. "There's so much work to do before you even touch a button," says Ray. "You can visualise what is going to happen, but often the surf and light isn't what you expected the night before. You have to be flexible and flow with the constant changes. I try not to box in my thoughts as a lot of my best images come from the unexpected." ➤

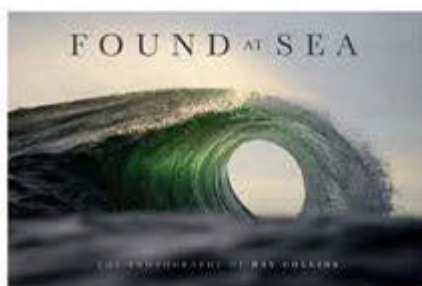
“BE FLEXIBLE AND FLOW WITH
THE CHANGES. I TRY NOT TO
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FROM THE UNEXPECTED”





It's difficult to imagine how anyone can plan for a subject that is seemingly unpredictable, but over time Ray has learnt the sea's behaviour and how to work in dynamic situations. "The ocean's reefs are like mountains that draw the current, and when the sea reaches the mountain peak that's when the wave breaks. You have a lot of outer reefs that create special sculptures from breaking waves, and you have beach breaks and random rocks that bend and swirl the water's energy. Some are ten metres off the shore; others a kilometre out – it's very varied. Talking about waves is like talking about trees: there are many species and some are native to certain areas of rocks or reefs, or whether the water is cold or warm – everything affects them."

"Shooting surf requires split-second micro-adjustments", says Ray, and even then it's hit or miss, which is one reason he shoots with a Nikon. "You never really need to put two hands on the camera: you can change the aperture and shutter speed with one hand. The grain at high ISOs is pleasant,



too, even at ISO 1200 the images are usable. I treat every situation differently, but I need a shutter speed around 1/640sec with autofocus to capture the moment, unless I'm using a wide-angle lens in which case focusing to infinity often does the job."

Ray has to roughly guess where a wave is going to break so he can pick a lens based on his predicted field-of-view at sea level – there's no switching lenses once in the water. Although Ray often swims alone, sometimes 45 minutes out to sea, a friend is never far away on a boat with a back-up Nikon body – either a D4, D4s, or when he favours pixels

Clockwise from top left: Using a long exposure of 1/10sec at f/16 allows Ray to blur the movement of this wave in to painterly strokes; Shot with an 85mm lens in the water at f/2.2 against a brooding storm; Ray up close to a massive wave; Taken from shore with a 50mm f/1.4 lens, Ray captures the moment the wave breaks and a rainbow behind with a 1/10sec exposure.

over speed, a D810 – and an underwater housing. Ray also has an enviable list of NIKKOR lenses from a fisheye AF-S 16mm f/2.8D and pin-sharp AF-S 14-24mm f/2.8G to use underwater, to a plethora of short, fast primes. "Of all my lenses, the primes in the 35mm to 85mm range are my favourite: they're not too wide that you lose depth but not too tight that you're cropping the waves," says Ray. Primes are faster and lighter than zooms, making them easier to swim with, but it means Ray has to rely on his fins to get close: "It's often like a treadmill – you'll be treading water for five or six hours without actually moving, just fighting the current to stay near the waves." Working with Mother Nature leaves a lot to chance, so Ray's kit has to be reliable if he's to capture the beauty of the oceanic beast. www.raycollinsphoto.com



“TALKING ABOUT WAVES IS LIKE TALKING ABOUT TREES: THERE ARE MANY SPECIES AND SOME ARE NATIVE TO CERTAIN AREAS OF ROCKS OR REEFS”



RAY COLLINS' KIT



Ray uses the Nikon D4 and D4s primarily, favoured for their high frame rate and incredible image quality, although he sometimes opts for a D810 when he wants the higher pixel count. He also prefers prime lenses, such as the AF-S 35mm f/1.4, AF-S 50mm f/1.4, AF-S 58mm f/1.4 and AF-S 85mm f/1.4, for their optical performance and wide apertures, but it does mean he has to place himself in the ocean near the action and use his fins to propel himself closer. When Ray is photographing surfers from shore, or not so close to the danger, he uses a AF-S 70-200mm f/2.8G, though he's also enjoying the new AF-S 300mm f/4E PF, which is lighter and therefore easier to swim with inside his housing, not to mention incredibly sharp. Ray has also taken to the current trend of using old manual focus lenses, like the AF 135mm f/2 DC, for an imperfect finish encouraging nice light leaks and bokeh. www.nikon.co.uk



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NEW: THE PROFOTO OFF-CAMERA FLASH SYSTEM



"I hadn't enjoyed using flash for many years. The ones I tried were either too bulky or too restraining. The Profoto Off-Camera Flash System has changed that. Now, I can move around freely, follow the inspiration and control the light in whatever situation I may find myself. For me, it feels like the beginning of something new."

- Australian wedding photographer Yervant



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IMAGE: STEPHEN CURRY





1 Wildflowers Spring's sprigs of green and buds of May are a prelude to get us excited for the photo possibilities ahead. Gardens are growing, the days are longer and wildflowers are aplenty. While your garden can be a perfect place to shoot still-life flowers; woodlands and meadows, even National Trust properties, are home to a lovely selection of flowers.

From June – September there's a steady flourish of wildflowers: Oxeye daisies, poppies, dandelion clocks, orchids, foxglove and cornflowers, to name a few, and each beckons to be photographed a certain way. For open meadows, poppy crops or coastal landscapes, use seasonal thrift or heather as foreground interest with a narrow aperture. Similarly, rows of lush lavender can make strong landscapes with converging verticals. Wait until late in the day for the sun to get low in the sky and you can get optimal horizontal lighting. Call ahead to your local lavender farm to find out if you



HELEN DIXON

can shoot in their field after hours when roaming people are less of a problem.

A fast telephoto lens, like a 70–200mm f/2.8, is ideal for isolating flowers in a field by blurring the foreground and background. But if you can get closer, pull out a 100mm macro lens or a 50mm lens with extension tubes for beautiful close-ups. Whatever you shoot, remember your tripod: the best light is often late in the day, which means lower light levels and, for landscapes and close-ups, smaller apertures too.

2 Get sporty! You won't find many fans of cricket or bowls in the *Digital SLR Photography* team, but we're not averse to attending these types of sporting events for photo potential. You're sure to find local cricket teams in your area that would be open to you capturing their matches in return for you supplying them some photos. A modest telezoom should be good enough for decent shots down the crease, or hire a powerful super-telezoom for frame-filling shots of the bowler or batsman in full swing. The rather sedate world of the bowling green is also worth a look – bowls teams in their snazzy attire make for good candids and using shallow depth-of-field, you can capture some great shots of members rolling their bowls along the turf. Trust us, you'll enjoy it more than you think!



EVGENI DINEV



SYDA PRODUCTIONS



MIKEY CARTWRIGHT

3 Summer sun The sun is higher and stronger for longer during the summer months. Normally, we'd suggest waiting for the last few hours of the day to shoot for soft, golden light but then you're missing out on almost 12 hours of photography. Diffusers, fill or high-speed flash and filters like ND grads, Neutral Density and polarising filters can all help. But rather than always holding back the sun, you could deliberately let it infiltrate your picture for the sake of creativity. For portraits, shooting the sun slightly out or in frame can capture stylised flare, but remember to use spot metering to expose the skin correctly, a reflector to bounce light back on to their face or positive exposure compensation to avoid your camera getting tricked by a bright background. For landscapes, you could pair filtration with a very narrow aperture of f/22 or f/32. While this may introduce diffraction, it also turns the sun into a starburst, making it a feature of your shot. It can look especially lovely from within woodland, bursting through the trees.



GARY RANNER



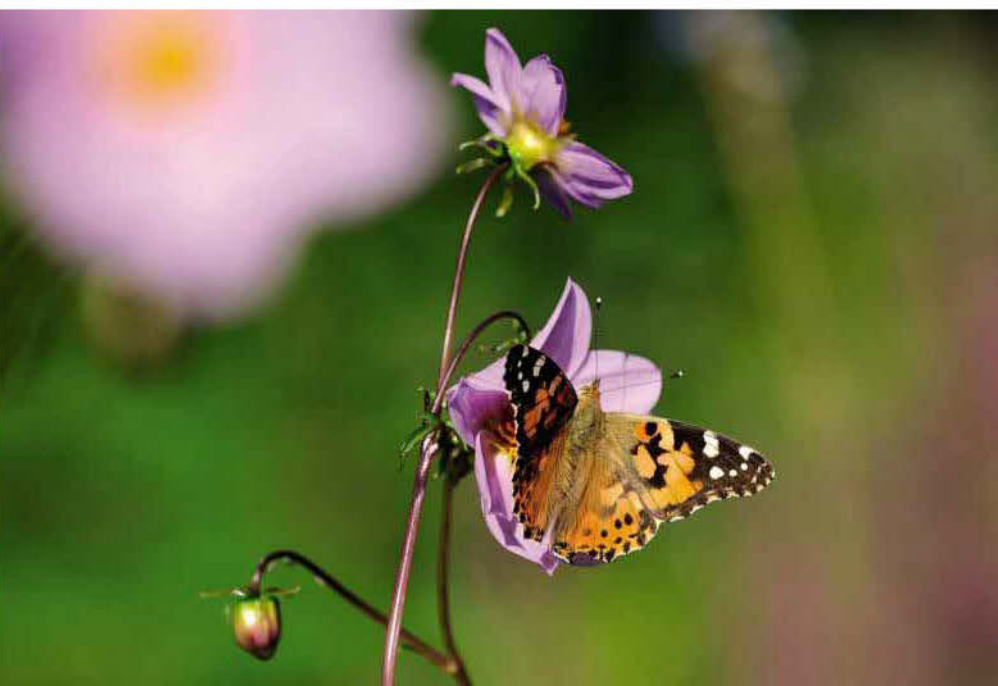
IFIMAGE

4 *A day at the seaside*

Combine a photo shoot with some family time by taking the loved ones to the seaside. While they're off eating ice creams and building sand castles, you can set yourself a project to capture a selection of shots that sum up perfectly the great British seaside. Colourful beach huts, souvenir stalls, fish-and-chip shops, deck chairs and close-ups of shells are all suitable subjects, but don't forget to also search out great candids, too. Few locations offer such promise for variety as the seaside in summer; so make sure you pack plenty of memory cards as well as the sun cream.



CRAIG YATES



ROSS HODDINOTT

5 Insects Beetles, butterflies, dragonflies and damselflies are the creatures and critters of summertime. They're best photographed during the early morning when they're all still a little dozy and the light is low and golden – ideal for silhouettes. Use a long macro lens (such as a 100mm or 105mm) to put some distance between you; the likes of a 60mm macro lens or extension tubes with tiny focusing distances mean you risk spooking these flighty critters. Ladybirds will be aplenty and can be carefully, but easily, moved to better light and pretty flowers for close-ups. Butterflies come in all shades and sizes and are best found in meadows. Dragonflies and damselflies are generally found near water. A small handheld diffuser can help soften light for close-ups if shadows are still too harsh – and remember your tripod, too! Shallow depth-of-field or long exposures are inherent to macro photography, so your camera and focusing needs to be steady.

6 *Pack extra punch with flash*

The long days of summer means you've extra time to make the most of daylight for location portraits. That's great news, but it doesn't mean you shouldn't consider using flash to add extra impact to your shots. Using a powerful flashgun off-camera or a portable studioflash allows you to capture portraits with striking contrast between a flash-exposed subject and a deep blue sky. It's a popular technique with portrait and wedding pros looking to add drama to their location portraits. As contributor Brett Harkness shows in this image, shooting low down with a wide-angle lens and including vegetation in the foreground to make the most of the unusual perspective adds even more visual interest to the shot.

IMAGE: BRETT HARKNESS





7 Shadow play While bright, direct sunlight is harsh, one thing that it is good for is casting striking, crisp and dark shadows. These can be incorporated into your images in all manner of creative ways. For portraits, try casting interesting shadows across your subject using venetian blinds, or placing your subject in dappled light under a tree: expose for the highlights, letting the shadows fall to darkness across their face. Landscape photographers can use long shadows cast by trees as lead-in lines, or side-lit craggy landscapes; the difference between light and shadow highlights shape and adds dimension.

Shadow play is popular with street photographers, too – seek out walls in direct sunlight that can act as a backdrop for interesting shadows cast by nearby structures or passing subjects. Look for how light and shade play together and perhaps divide the frame, or make shadows the subjects of your images. Keep an eye out on the ground for shapes and lines cast in shadow to create simple graphic shots or incorporate both shadow and a subject in the frame before flipping the image upside down. By doing so, the shadow becomes the primary focus. The possibilities really are endless!



BRETT HARKNESS



INES MEJERS

8 Use an ND filter

Shooting in bright sunlight can hamper your creativity if you aren't properly prepared. For example, if you're wanting to use a wide aperture in the mid-day sun then you're going to be limited by how slow your shutter speed can go. The solution – Neutral Density filters. Available in various strengths, they sit in front of your lens and block some light from reaching the sensor, allowing you to use wide apertures and slow shutter speeds together, even in bright light. There are several reasons to do this – using flash is a good example. Your camera's flash sync speed is usually between 1/160sec and 1/250sec – any faster and you'll see a black band across the frame. By using an ND filter you can bring your camera's shutter speed within the flash sync and still select a pleasing wide aperture. Another example is when recording motion in landscapes, such as passing clouds or moving water. Popular strengths of ND include two-, three-, six- and ten-stop – the latter allows for very long exposures in bright sunlight!



BRETT HARKNESS

9 Have a splashing time! Even the most camera-shy kids won't turn down the chance to have their picture taken on a hot summer's day – if it involves messing around with water. Buy a cheap and cheerful pool from the local discount store and photograph your kids playing with the water. Colourful outfits can add extra visual interest and use flash to add sparkle if you think it's needed. If a pool's not an option, hose them down with water and capture some fun shots of them getting soaked. Shoot into the sun so the water is backlit, or side lighting can also work well, and use a reflector or flash to fill in any shadows on their face. A wide aperture, focused on their face, will also transform water droplets to beautiful bokeh.



TAMMY MCCARY

10 Golden backlight With the days at their longest there's no excuse for missing the best light of the day – during summer you've time to get home, eat your dinner and still be on location in plenty of time for sunset. Keep an eye on the forecast, and if it looks sunny or partially cloudy then you know to head out with your camera. One golden-hour technique is backlighting, however shooting towards the sun presents challenges – flare and low contrast can be an issue, so shield the lens from the sun if it's unwanted. Often flare can add atmosphere to your shots, so don't discount an image because of it. Shooting towards the sun can also trick your camera's metering system, causing underexposure. Anticipate this using exposure compensation to dial in between EV+0.3 and EV+0.7 and see how things look from there. What are the ideal subjects for golden backlight you ask? Well, just about anything – flowers, wildlife, portraits, pets and landscapes all look great at this time of day.

An underwater photograph showing a large shark swimming towards the right, with a diver visible in the distance. The water is dark and murky, with light rays filtering through from above. The shark's head and front fins are visible on the right side of the frame, while the diver is a small figure in the lower right. A trail of bubbles rises from the diver towards the center of the image.

The Big Interview

Into
THE DEEP

DIRECTOR AND ADVENTURE PHOTOGRAPHER TYLER STABLEFORD TALKS TO CAROLINE SCHMIDT ABOUT FULFILLING A PERSONAL DREAM OF GIANT MAGNITUDE, BOTH IN SUBJECT MATTER AND AMBITION

Words: CAROLINE SCHMIDT





KATE ROLSTON

“**W**E WERE TAKEN ABACK by our first encounter with the whale sharks: they were lithe, huge creatures; quiet and solemn,” says commercial photographer Tyler Stableford, while discussing his latest project. In an ambitious feat to capture beautiful underwater fine-art images, Tyler took to Cancun in Mexico with a team including competitive swimmer Ashley Mosher and Tyler’s co-director Kate Rolston to photograph these incredible creatures.

Armed with grand plans, Canon sponsorship and a willing desire to create imagery that spoke from his heart, Tyler embarked on one of his most challenging

personal projects to date. He and Ashley choreographed compositions that consisted of her rising up below the shark, while arcing gracefully. “The images could not look like Ashley was swimming down from the surface to try to get close to the shark – that would look too pedestrian.” However, after some testing, Tyler and Ashley soon realised they had underestimated the scale of their photo ambitions. “The sharks moved more quickly and erratically than we had anticipated. For some serenely optimistic reason I thought it would be easy for Ashley and I to position ourselves perfectly with the sharks.” The notion of having to align a photographer, an unpredictable wild animal and a swimmer in a graceful pose – all

without scuba gear – according to Tyler, made the team feel like they had less than a 50 percent chance of success on shoot day.

To have any chance of getting the images, Ashley had to swim about 50ft in front of the moving shark – a task alone that would exhaust most people – then plunge deep underwater to position herself below the shark – all without a mask, snorkel or fins. It was only then that she could begin to dance: to arch and twirl alongside the shark until she ran out of air. Meanwhile, Tyler kicked hard to align himself with the shark’s tail fin – fighting to swim through the backwash created by the massive fish – to take a dramatic shot using his Canon EOS 5D Mark III and 14mm lens, with Aquatech ➤



1



2



3

Previous page) Whale sharks are the biggest fish in the sea, averaging 40ft long and weighing 20 tons. They eat mostly plankton and small fish. 1) Kate Rolston was a second-shooter on this project and captured this image of the shark. 2) After 30 minutes of searching, the team found a group of 40 whale sharks on the day of the shoot. 3) A whale shark shot from above with sun rays penetrating the surface into the deep ocean. Photographed at f/4.5.



“We shot for five hours in the water, with dozens of failed attempts, and also a number of perfect moments”

Sport Housing. “The Caribbean water is incredibly blue, despite the plankton making the water dense,” explains Tyler. “If I had used a longer lens this may have been a problem but, as I was using a wide-angle lens, I needed to get within two or three feet from the shark’s fin to fill the frame – visibility wasn’t an issue. But it also meant that if Ashley was even 5ft away from the shark, the images felt lacking: there was no tension and it looks like she’s swimming 20ft away from the shark due to the way the 14mm lens exaggerates distance.

“It was only a very slim, handful of times that it all came together and worked out. I can’t remember how many times the shark went right, she thought it would go left or I’d lose her on the other side of the shark. The

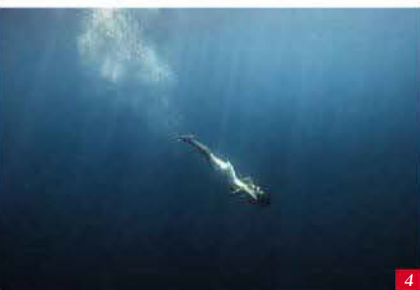
few times that it did come together, though, blessed us with magical results,” says Tyler. The challenges of completing such a project seem endless. It took an hour’s boat trip and another 30 minutes of searching before they found a group of about 40 whale sharks in the Caribbean water. Though it wasn’t the moving creatures or the four hours in the sea that posed the most difficulty – according to Tyler it was the light. “[The biggest problem was getting] the right exposures in constantly varying lighting conditions. The light changed dramatically whether the sky had cloud or not, or if Ashley was 10ft or 30ft deep, and the tone of the shark is very different to Ashley who wore a white skirt and top to reflect the natural light. We had to play around a lot with camera angles,



KATE ROLSTON

settings and many times we came up short – but a few times we hit the bull’s-eye.

“Despite all the challenges, one aspect of the project that I am proud of is that the images are all uncomposited: one frame, no retouching, no repositioning of the subjects. We shot for five hours in the water, with dozens of failed attempts, and also, magically a number of perfect moments.” To watch the behind-the-scenes video and to see more of Tyler’s portfolio, visit: www.stablefordstudios.com



KATE ROLSTON

4



5



KATE ROLSTON

6

- 1) Taken with a 14mm lens using an exposure of 1/250sec at f/9 to capture the sun streaks through the water.
- 2) Plankton makes the water murky, but wide apertures can help.
- 3) Ashley and Tyler discussing their plan before heading into the ocean to photograph the whale sharks.
- 4) Kate Rolston shoots Ashley as she dives below the whale shark.
- 5) Tyler swims about the head of the shark towards the fin and Kate who is documenting behind the scenes.
- 6) A behind-the-scenes image of Tyler photographing the shark from within a few feet, while battling with the backwash.

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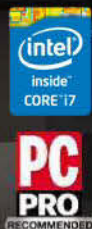
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Gear

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SAMSUNG NX500

SAMSUNG REMAINS A MAJOR PLAYER IN THE MIRRORLESS CAMERA MARKET AND ITS LATEST OFFERING BOASTS FEATURES FROM ITS TOP MODELS IN A SNAZZY COMPACT SHELL



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ALL-NEW FUJI PRODUCTS AND FREE UPDATES

FUJIFILM HAS UNLEASHED a trio of products and updates in the form of a new camera model, lens and a major firmware update. After the roaring success of the brand's flagship APS-C X-T1, it has launched the Fuji X-T10 with all of the performance and quality of its larger sibling minus the size, weight and price tag. It sounds too good to be true!

The X-T10 packs in the same 16.3-megapixel APS-C X-Trans CMOS II sensor with built-in phase detection autofocus and EXR Processor II as the X-T1, not to mention that fantastic Real Time electronic viewfinder (EVF). The EVF has been improved with a 2.36 million-dot organic EL viewfinder and ambient light level controls. It also boasts the same autofocus improvements that are coming to the X-T1 (see below). The X-T10 shares the same stylish, retro-inspired angular lines as the X-T1, but on a smaller scale. It appears to be aimed at more casual shooters wanting the same fantastic image quality, without the size and weight of its bigger brother. However, the X-T1 still has weather sealing above and beyond the X-T10. Compatible with existing XF and XC lenses, the X-T10 goes on sale later this month, priced at £500 (body-only), £600 with XC16-50mm lens or £800 with XF 18-55mm lens – a chunk of cash cheaper than the X-T1!

Also new from Fuji is another weather-resistant lens – the Fujinon XF 90mm f/2R LM WR. Offering a newly-developed Quad Linear Motor, Fuji claims that it can autofocus in just 0.14 seconds. There are 11 elements in eight groups, with three extra low-dispersion elements to reduce chromatic aberrations. At this focal length (137mm equivalent), the new lens promises to be a cracking addition to any portrait shooter's collection. Available in July, the XF 90mm f/2R LM WR will set you back £700.

The final announcement from Fuji is a free firmware update for the X-T1 that claims to transform the camera's AF system. Available later this month, the update offers improved tracking of moving subjects via new Zone and Wide/Tracking modes. AF accuracy has also been improved in the single-point AF mode, and Eye-Detection AF has been added, which automatically focuses on human eyes – impressive stuff! www.fujifilm.eu



New high-spec Panasonic Lumix

Panasonic has unveiled an addition to its Lumix family – the DMC-G7. As we've come to expect from Lumix models, the new camera is well-specified when it comes to shooting video, boasting 4K video recording at 25p or Full HD at 50p. Behind this capability is a 16-megapixel Live-MOS sensor and up to 8fps still shooting thanks to the Venus Engine image processor and quad-core CPU. There's a ceiling ISO of 25600 made possible in part to an improved Multi-process Noise Reduction (NR) system, and a fast Contrast AF system featuring Depth From Defocus (DFD) technology, which claims to shorten focusing time even further. The new Lumix DMC-G7 goes on sale later this month in black or silver, priced at £600 body-only. www.panasonic.co.uk



Throw & shoot

Drones have been around for a good while, but this one really caught our eye. The new Lily Camera looks to take the world by storm, if it's as good as it looks. What separates the Lily from the rest is that it's self-flying, waterproof, and is activated by simply throwing it up in the air. Four propellers kick into life and the drone tracks and films the user in Full HD using clever algorithms and a GPS bracelet – the latter can be used to control the Lily to a certain degree, telling it to follow from behind, track in front, fly past or circle. It can stay airborne for 20 minutes and track up to 15mph, too. We hope this is an idea that gets off the ground – pun intended. The Lily Camera is due on sale February 2016, priced at around £650. www.lily.camera

WIDE ANGLE

Lee Filters has updated its excellent SW150 wide-angle filter system to support other optics. Still suitable for the Nikon AF-S 14-24mm f/2.8G ED, the new system is also compatible with the Samyang 14mm f/2.8 ED, Tokina AT-X 16-28mm f/2.8 FX and Sigma 12-24mm f/4.5-5.6 II DG. It also features a new Lightshield system, which creates a light-tight seal. What's more, Lee Filters' range has been extended, and users can now buy the Little and Big Stoppers, and circular polariser, in 150mm size. www.leefilters.com



NEW NIFTY FIFTY

One of the most popular lenses on the market, the Canon EF 50mm f/1.8, or 'nifty fifty' as it's collectively known, has been updated. Canon has announced the successor – the EF 50mm f/1.8 STM. The new lens features a seven-blade aperture, super spectra coating and Canon's Stepping Motor technology, which offers near-silent focusing – perfect for video shooters. Weighing in at 160g, the new lens is the perfect carry-everywhere prime. Costing £130, it's likely to be on the must-have list of every Canon photographer. We can't wait to give it a try – we'll let you know how it fares! www.canon.co.uk



SAMSUNG NX500

Can this small and stylish mirrorless model be considered an alternative to a digital SLR? Samsung certainly hopes so, but here's what we think...

Test: DANIEL LEZANO

SPECIFICATIONS

Kit Price (with 16-50mm Power Zoom):	£599
Image sensor:	APS-C CMOS (23.5 x 15.7mm)
Resolution:	28.2-megapixels
Maximum image resolution:	6480x4320pixels
AF points:	Phase Detection: 205; Contrast AF: 209
ISO range:	100-25600 (Hi: 51200)
Shutter speeds:	1/6000sec-30 seconds & Bulb
Continuous frame rate:	9fps
Flash:	External unit, included with camera
Monitor:	3in AMOLED touchscreen (1,036,000-dot)
Storage:	SD (SDHC/SDXC)
Size:	119.5x63.6x42.5mm
Weight:	292g (without battery and card)

WHEN MIRRORLESS CAMERAS, also known as Compact System Cameras (CSCs), first came on the scene, there was a lot of talk that the age of the DSLR was over. The removal of the reflex mirror brought with it advantages like smaller and lighter bodies and faster AF and the potential to produce similarly specified cameras for less, meaning CSCs would be more affordable than comparable DSLRs.

However, despite these benefits and heavy marketing, CSCs remain a clear minority in the world of interchangeable-lens cameras, accounting for around 20% of the market. DSLRs therefore continue to be the favourite with hobbyists, enthusiasts and pros alike, but that's not to say you shouldn't consider a CSC like Samsung's NX500 as part of your camera outfit. In the past, many SLR users kept a premium compact with them, to use at times when a larger camera was prohibitive. CSCs are now filling that role, offering the potential to deliver images of similar quality to a DSLR, yet in a smaller body that also boasts the major benefit of interchangeable lenses.

Samsung's NX500 is the Korean electronics giant's latest model and I have to say from the start that I'm mightily impressed with its capabilities. Although a similar size to many premium compacts, it houses an APS-C CMOS sensor and several features passed down from the flagship NX1 model, making it worth considering if you're on the hunt for a small, well-specified camera.

Let's consider the sensor first of all. As I mentioned, it's an APS-C format CMOS, unlike many of its rivals, which use smaller sized sensors, but that's not its only advantage. The sensor boasts BSI, or



HIGHLY SPECIFIED

The Samsung NX500 is a sleek and compact model yet manages to fit an APS-C sensor into its body. We like the camera's handling but are less keen on the Power Zoom lens.

backside-illumination, which allows for larger, more efficient pixels. And its resolution of 28.2-megapixels (giving images with a maximum resolution of 6480x4320pixels) is the highest of any APS-C sensor. A bigger sensor with BSI and a high resolution therefore delivers the promise of higher quality images and video compared to rivals. On the point of shooting HD video, the Samsung has the capability to shoot 4K for ultra-high resolution movies, as well as your more typical HD formats, too.

Such a high performance sensor demands a powerful processor and the NX500 boasts a Samsung DRiMe Vs processing engine, which bar some slight modifications, is the same as the chip used in the NX1 and allows you to shoot at an impressive nine frames-per-second.

You can see that your £600 is already getting you quite a bit of high-tech innovation already – delve further into the NX500's arsenal of features and you'll find many more features on offer.

The NX AF System III uses the same hybrid system as the NX1. It's based on 209 Contrast AF points and 205 Phase Detection AF points, of which 153 are the more sensitive cross-type sensors. As well as your standard AF modes (single, continuous and active), you can also touch the screen on the area of the image where you'd like to focus.

The exposure system is also well catered for, with the main dial quickly allowing access to the core four modes (program aperture-priority, shutter-priority and manual), along with full auto, Smart (ie scene) modes and SAS (Samsung Auto Shot) modes. This latter setting brings up three rather unusual exposure modes (Baseball,



Jump Shot and Trap) aimed at using the Hybrid's AF system to capture the moment when a baseball player connects with the ball, an athlete reaches the peak of their jump or a moving object passes a particular point in the frame. In terms of metering patterns, the NX500's default setting is a 221-segment pattern, supported by the choice of spot and centre-weighted, with +/- five stops of exposure compensation.

Shutter speeds range from 1/6000sec to 30 seconds (plus Bulb) and flash sync is 1/200sec. The Samsung doesn't have a flash built in, but does have a small external unit supplied with the camera, that can be slipped on the hotshoe when required.

Another feature that's lacking on the NX500 when compared to the NX1 and DSLRs is a viewfinder. Images must be composed using the Samsung's 3in screen. Fortunately, it's a very high quality display, with good brightness and contrast and a sharp 1,036,000-dot screen. It is housed on a tilting platform too, so you can alter when shooting at awkward angles – you can even rotate it 180° for selfies! As mentioned earlier, it is touchscreen so you're able to



Exposure: 1/100sec at f/8 (ISO 160)



Exposure: 1/180sec at f/5.6 (ISO 400)

select and change functions quickly and easily by pressing the appropriate icons.

As you'd expect of a company that produces mobiles, the NX500 also offers Bluetooth, NFC and most importantly Wi-Fi, so you can upload to a tablet or smartphone.

An area where the Samsung performs well is with its general handling. Build quality is very good and while it's not weather-resistant, I've used it in the odd downpour and it suffered no ill effects. Its small, slim shape means it slips into a jacket pocket with ease and the nicely contoured handgrip makes it secure to hold. While the control buttons are smaller than on a DSLR, they're easy to use, thanks to their neat arrangement and clear markings. I also like the fact the NX500 boasts two input dials as this speeds up operation. The iFunction button on the 16-50mm kit lens is very useful too, although I'm not keen at all on the Power Zoom (as opposed to manual

zoom ring). I also found I kept accidentally pressing the iFunction button when trying to use the zoom buttons as they're close together. This, and the lack of a viewfinder, were my only two real handling quibbles.

The Samsung scores very highly when it comes to overall performance. The JPEG files offer a great deal of data and are big enough to allow decent crops while retaining ample file sizes. The autofocus system performs very well and I rarely found it struggling to lock on to subjects. The exposure system is consistently accurate too – apart from backlit scenes and those with large areas of sky, I found the NX500 to get it right pretty much every time. As for noise, avoid going over ISO 1600 and you won't experience any problems.

Overall, it's fair to say the performance and image quality from the Samsung is on a par, if not better, than most other DSLR and CSC models at this price range.

SAMSUNG NX LENS SYSTEM

Samsung has worked hard to expand its lens range and the NX system now boasts optics to meet the needs of enthusiasts as well as hobbyists. The current range includes the following lenses:

- NX10mm f/3.5 fisheye: £400
- NX16mm f/2.4: £260
- NX20mm f/2.8: £220
- NX30mm f/2: £250
- NX45mm f/1.8 i-function: £250
- NX45mm f/1.8 2D/3D: £250
- NX60mm f/2.8 ED OIS Macro: £500
- NX85mm f/1.4 ED SSA: £700
- NX12-24mm f/4-5.6 i-function: £450
- NX16-50mm f/3.5-5.6 Power Zoom: £260
- NX16-50mm f/2-2.8 ED OIS: £900
- NX18-55mm f/3.5-5.6: £200
- NX18-200mm f/3.5-6.3: £600
- NX50-150mm f/2.8 SED OIS: £1,200
- NX50-200mm f/4-5.6 OIS: £220

CLOSEST RIVALS

● **SONY A6000:** One of Samsung's main rivals is this neat 24.3-megapixel model that sports an APS-C sensor, incredibly fast AF, Wi-Fi/NFC and Full HD video. It's slickly designed and boasts a great range of features, as well as solid all-round performance. You'll find it for around £550 with 16-50mm Power Zoom kit lens.

● **PANASONIC LUMIX GX7:** If you're looking for a fully laden specification housed in a snazzy retro design, check out the 16-megapixel GX7, available for £350 with 14-42mm zoom lens.

● **CANON EOS 700D:** Superseded by the 750D/760D combo, but there's still stock of this highly-specified 18-megapixel DSLR available. It boasts a stack of features, great performance and a huge lens range. You'll find kits with the 18-55mm lens on sale for around £500.

● **NIKON D5300:** Shop around and you'll find this excellent 24.1-megapixel DSLR with vari-angle LCD monitor for well under £600 with kit lens. It handles well, offer a full set of functions and delivers first rate results.

VERDICT

Samsung's aggressive price point helps the NX500 stand out from other cameras. It's the high resolution APS-C CMOS sensor that gives it the edge but while this is the main selling point, the NX500 has many others. It's a great all-round camera, a good alternative to a DSLR if you're travelling light, and a more versatile option to a premium compact as a lightweight and small second camera. Worth a look although the lack of a viewfinder may put some off.

Handling	17/20
Ease of use	17/20
Features	17/20
Performance	18/20
Value	19/20

Overall 88/100

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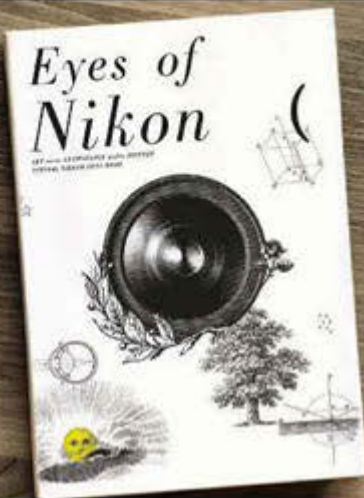
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*Quote by Moose Peterson - Nikon Ambassador and Wildlife Photographer

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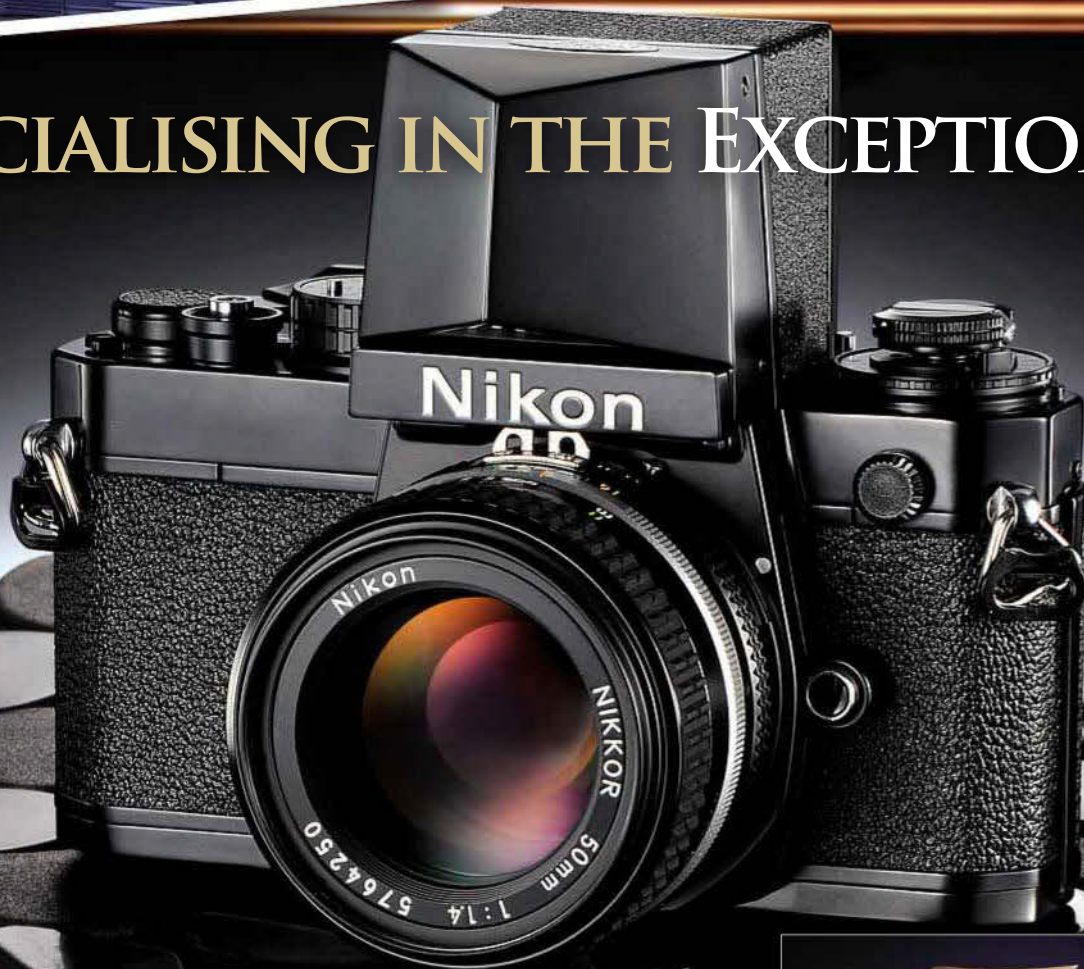
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Photography by Tony Hurst



NIKON FE ACTION CAMERA

The Nikon FE Action camera is very rare special Nikon FE with an F2 style action finder for use with a Niko-Mar underwater housing, only 100 of these cameras were manufactured and 50 were delivered with special underwater housing to National Geographic magazine photographers. The FE is a compact 35mm single lens reflex that offers aperture-priority automatic exposure control with shutter speeds from 1/1000 second down to 8 seconds, has interchangeable focusing screens and accepts a MD-11 for motor driven exposures up to 3.5 frames per second. All of the specifications of the Nikon FE Action Camera are exactly the same as the regular Nikon FE, except as follows: Viewfinder: Fixed eye-level, high-eyepoint "action finder" using special roof prism, finder magnification is 0.58X, permits viewing of entire viewfield with the eye placed 43mm directly behind the viewfinder. Aperture Direct Readout (ADR) is not provided. A metering range: EV2 to EV 18 with 50mm f/1.4 at ASA 10, Accessory shoe: Not provided, Flash ready-light in viewfinder: Not provided. Weight: 790g (body only).

This stunning example comes complete with original maker's box, instruction manual, The Nikon System Chart, The Nikon Way to Photography, Nikon Filters leaflet and Nikon FE Action Camera technical one sheet. The serial no. FEA 5400003 making it possibly the second one manufactured. Unused. £10,000.



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LYTRO ILLUM

The Lytro ILLUM is unlike any other camera, letting you alter depth-of-field and focus point after capturing the shot

Test: DANIEL LEZANO

SPECIFICATION

Guide Price: £1,000 / Street Price: £1,000

Sensor: 1/1.2in CMOS

Resolution: 40-megarays

Image resolution: 4896x3264 pixels

Integral lens: 30-250mm f/2

LCD monitor: 4in dual-tilt (480x800-pixel screen)

ISO range: 80-3200

Shutter speeds: 1/4000sec to 32 seconds

Storage: SD (SDHC/SDXC)

Size (WHD): 145x86x166mm

Weight: 940g (including battery & card)

Websites: www.intro2020.co.uk or www.lytro.com

THE LYTRO ILLUM is a camera without comparison – a photo oddity that turns conventional photography on its head. To truly understand how it works you really need to get your hands on one. But with the Lytro costing a penny shy of a grand as we went to print (a drop of £300 since launch), few will get the chance, so this review will try its best to explain what makes it such a unique proposition to use.

Lytro describes what the ILLUM captures as 'living pictures' and I can see where this description arises from. Conventional cameras focus on a particular spot, images are taken at a selected aperture and thus shots are captured with a specific depth-of-field, but not the Lytro. It allows you to change the point of focus and depth-of-field from the comfort of your computer, rather than at the moment of capture.

It does this by capturing light rays travelling in multiple directions to deliver what's best

described as a three-dimensional array of information, as opposed to the flat 2D data a standard camera records. This is possible because a microlens array in front of the sensor cleverly spreads the light before it reaches the sensor, the ILLUM's processor then uses the data to determine the information needed to allow you to later change focus and aperture, as if by magic. As you'll discover when using Lytro's supplied software, you can alter variables like the aperture and point of focus as easily as more typical adjustments like colour and contrast.

This explains a little why the Lytro is quoted with a resolution of 40-megarays as opposed to megapixels – various experts far cleverer than me state that for comparison purposes, you should view 2D JPEG images

(as opposed to Raw files containing full three-dimensional data) as having a resolution close to four-megapixels.

The Lytro is a very unusual looking camera, with a long, thick lens mounted on to a thin body. Despite the unorthodox appearance, it's surprisingly nice to handle.

The Lytro's lens is a non-interchangeable 8x zoom that is equivalent to 30–250mm in 35mm terms. There is no aperture control, instead everything is captured at f/2, regardless of the focal length used. Close-focus is excellent – you can literally touch the subject to the front element of the lens and keep it sharp in the frame.

Its rear is dominated by a large 4in touchscreen LCD set on a tilting platform. The camera body itself has only a few



Above: The 30-250mm f/2 zoom dominates the Lytro's unusual design.

Right: On the right of the LCD is the depth scale – aim for a good spread of blue and orange around the focus point.





Bottom left: The same image is shown processed with different apertures. The point of focus can be changed too. **Right:** The Lytro's software package is set out to work much like popular editing suites, such as Adobe Lightroom.

buttons for key features like AF and AE-Lock, as well as a multi-purpose functions button and input dial – you'll find most key controls can be selected via the touchscreen. Selecting the likes of White Balance or frame advance is similar to normal cameras, but in terms of exposure modes there is no aperture-priority, as the camera shoots everything at f/2. ISO ratings can be set between 80-3200 and the Lytro boasts Wi-Fi, so you can view images from the ILLUM on your smartphone.

The real difference in how you capture images comes when deciding how much of the scene is in focus. Rather than choose a point of focus and think 'wide aperture for shallow depth-of-field, small aperture for the opposite', you need to use the depth scale on the right of the LCD. This scale indicates the range the camera can refocus the image to via the software – in practical terms it's equivalent to around f/16 on standard cameras. The scale is split into orange and blue areas – the area in front of the focus point is blue, the area behind is orange. For the best possible results you need to adjust the scale (via changing the focus point, focal length and/or subject-to-camera distance) until there is a good spread of colours across the scale.

Confused? Yes, the Lytro does take getting used to – and we've not even got to using its software to handle 3D data! Don't worry, we won't delve on this latter part, except to say the software is set out like other editing packages, so you should get used to using it fairly quickly. You'll find image processing isn't problem-free, with shots often sporting 'depth artefacts' that



needed editing out (see our example images), hopefully future updates will reduce this problem. As well as 2D JPEGs and 3D Raw files, you can create 'moving images' that show a transition of the depth-of-field. It's this area where I can see future Lytro models gaining ground. As a stills camera, it's too expensive and too low in resolution, but its unique characteristics may see its adoption on websites and for special effects. While its JPEGs show decent sharpness and vibrant colours, it's not good enough to warrant purchase for stills. I'm sure some users though, will find use for its 3D capabilities for specialist, online usage.

VERDICT

There is no denying the Lytro ILLUM represents a new dimension in digital photography and I'm sure its unique capabilities has specialist applications. Its high price and low resolution means its not a viable choice of camera for the enthusiasts or hobbyist. However, it's certainly an interesting and unique proposition that I'm sure will improve over the next few years.

Build quality	★★★★★
Features	★★★★☆
Performance	★★★★☆
Value	★★★☆☆
Overall	★★★★☆

Stellar Photo Recovery software

Fast processing / Recovers video, audio and stills / Simple to use / Windows and Mac compatible

Test: CAROLINE SCHMIDT

Price: USD\$78 / £50

Contact: stellarphotorecoverysoftware.com

IT HAPPENS TO the best of us and we all experience the same sinking feeling, whether it's mourning the loss of family photos or the products of your latest photo shoot. There are many reasons a memory card might corrupt. The most common is if you interrupt the reading or writing of data from the camera or computer, or delete files using your computer not by formatting your card. But when you have a reliable image recovery software to hand, you know you can breathe a little bit easier.

Stellar Phoenix Photo Recovery software offers two versions: standard and Platinum Edition; the latter 'repairs corrupted JPEGs', gives you previews and is the more expensive of the two – and the one I've tested here to recover stills. Dubbed as the complete solution for image recovery, the software is designed to retrieve audio, video and still file data from hard drives, USBs and memory cards in all manners of file formats (Raw, JPEG, TIFF, PNG, Exif etc). Using the software is simple: choose, scan, recover and save – there's no room for error. It completed its scan of 250 images in less than ten minutes but, despite promising to recover Raw files, it only retrieved full-resolution JPEGs and low-resolution files. While it did recover all the JPEG images on a formatted card, it's often the Raw files that hold the most value and for a software costing £50, I'd expect it to be a reliable solution. Companies such as Lexar and SanDisk offer their own free recovery software, which in this case retrieved all the Raw files. So if you have it, make that your first port of call and leave the third-party software for when recovering something is better than nothing.

VERDICT

For the money, I'd expect the software to reliably and consistently recover Raw files but it didn't instill confidence in me and the supplied software from the memory card manufacturers did a better job.

Overall ★★☆☆☆



I currently work as a touring technician and spend a lot of time traveling around the world with various acts. OCA's structure allows me to study anywhere, which for me is fantastic. Once on the course I received an incredible level of support from my OCA tutors. This is what makes OCA for me. The tutors go that extra mile knowing working and distance learning can be a struggle. They find time to encourage, motivate and stimulate which when studying remotely is invaluable.

Ozzie Henderson
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PREMIUM HEADS

Broncolor Siros vs Elinchrom ELC Pro HD

WHEN ONLY THE BEST WILL DO, THESE PREMIUM STUDIOFLASH HEADS OFFER A WIDER RANGE OF POWER, TIGHTER COLOUR CONTROL, FASTER FLASH DURATIONS, AND QUICKER RECYCLING. AT A PREMIUM COST THOUGH, TOO

IN OUR RECENT group review of studioflash heads (March 2015) there were some excellent high-quality bargains to be had for less than £200 each – great buys, and the ideal way to get started in studio photography. So why spend several times that amount on one of these new Broncolor Siros or Elinchrom ELC Pro HD heads? They're powerful of course, but what really makes them special is accurate and extensive light control, such as the wide range of power, fast flash durations, ultra-rapid recycle times, accurate colour, and controlled consistency.

This is the kind of performance normally associated with heavy and expensive floor-standing studioflash packs with their multiple banks of capacitors, and the flash head itself separate, connected by a fat high-voltage cable. And that's exactly what both manufacturers have achieved here, by squeezing multiple capacitors into compact all-in-one monolights, with the flash head built-in. With a standard monolight, there's basically one capacitor bank that is pre-charged to the required level, either fully charged for max power, or part-charged for

Test: RICHARD HOPKINS

lower outputs. It works pretty well, but for critical work, when large capacitors are only partially charged, the colour of the light gets slightly warmer, the flash duration gets longer, and at lowest output exposures can sometimes fluctuate slightly from shot to shot. A better way, though more expensive, is to have multiple capacitors of different sizes, and to mix-and-match them for optimum performance throughout the power range.

Those colour problems with normal monolights are fairly minor, and not usually anything to worry about for things like normal portraiture, but for really critical subjects – such as catalogue work, fashion, or product photography – colour and exposure needs to be exactly right.

HOW WE DID THE TESTS

● **POWER OUTPUT:** Manufacturers quote power in Watt-seconds (Ws) but it's only a rough guide as Ws is a measure of energy stored in the capacitors, not the light output. We use a standard test softbox, a Lastolite 95cm

Umbrellabox that can be fitted to any head, and is particularly good at collecting all the light and projecting it in the same way, for comparisons on a level playing field. Brightness is measured at 1.0m distance and is given as an f/number plus a decimal, at ISO 100. For example f/16 +0.5 is exactly half way between f/16 and f/22.

● **MODELLING LAMP:** Tested in the same way as flash output, with readings expressed as EV (Exposure Value) at ISO 100. One EV difference is the same as one stop. In exposure setting terms, 7.0EV equates to camera settings of 1/60sec at f/2.8, ISO 400.

● **FLASH DURATIONS:** Flash durations are hard to measure realistically, because of the way brightness of the flash pulse peaks rapidly and then fades gradually, so the industry uses a 't.5' formula to calculate it. We use a fast-spinning disc to visually compare action-stopping ability directly against real shutter speeds.

● **COLOUR:** Colour accuracy is tested with a Macbeth X-Rite Colour Checker at different power outputs, and any shifts are measured in post-processing.



BRONCOLOR SIROS Wi-Fi (400S and 800S)

SPECIFICATIONS

Street price: 400S £1,098
Street price: 800S £1,320 (head-only)
Max power: 400Ws and 800Ws
Min power: 2Ws and 4Ws
Power range (both): 8 stops down to 1/256th output
Recycle time: Max power 0.95sec, and 1.9sec
Colour balance: 5500K at max power, both heads
Flash durations t.5: Speed mode, 400S, max power 1/2200; min 1/13,000sec.
800S: max power 1/1100sec; min 1/8000sec
Radio trigger: Built-in Broncolor RFS 2.1/Pocket Wizard
Fan cooled: Yes
Modifier fitting: Broncolor
Dimensions: 32 x 13 x 18cm
Weight: 3.2kg and 3.6kg
Contact: www.ukbroncolor.com

WHILE £1,000 FOR a studioflash head is not cheap, it is for Broncolor – famous for high performance, high-build quality, and high prices. The new Siros heads are designed and assembled in Switzerland from components sourced overseas, and that has brought prices down in line with other top quality studio monolights from Bowens, Elinchrom and Profoto.

Siros heads look very contemporary with sleek minimalist styling, and the specification is bang up to date too, with technology passed down from the acclaimed Broncolor Scoros studio packs, using multiple capacitors and ECTC. That's Broncolor's patented Enhanced Colour Temperature Control system that was originally developed to improve colour accuracy by cutting off the yellowing tail of the flash pulse at lower power settings. But here, the second-generation of ECTC has been applied much more aggressively, to not only chop off the tail but in speed mode to also cut more deeply into the flash pulse and effectively shorten its duration. In this respect, it works a bit like hotshoe flashguns, but that's where any similarity ends.

There is just one big multifunction knob and two buttons to control everything. The knob adjusts power in one-tenth stops, or turn it quickly and it changes in whole stops. The range is massive, eight stops (or nine steps, as marketers prefer to say), down to 1/256th power on both the Siros 400S and 800S models. Push the knob to access menu options or even better, hook up to the bronControl Wi-Fi app and everything is there on your iPad. The bronControl system interface looks very cool, easy and intuitive to use, and gives complete control of just one light or a whole studio full. An Android version is on its way too.



Maximum power output of both Siros heads is slightly lower than you might expect from the Ws ratings, measuring f/16 +0.4 (softbox at 1.0m, ISO 100) with the 400S, and f/22 +0.5 for the 800S. That's maybe a few tenths down on the average, but it's still plenty for general work and both heads go off with quite a loud pop at full power. At lower settings the output is reduced with high accuracy. The modelling lamps of both versions are very bright at 7.3EV, but don't stay quite in proportion, reducing by roughly 0.7EV for every one stop of flash power.

Both heads recycle quickly, with the 400S measuring one second at full-power, and 1.9 seconds for the 800S. At lower outputs, they're very much faster – effectively instantaneous at commonly used mid-range power settings. At minimum output, Broncolor says they can fire up to 50 frames-per-second.

Flash durations are very fast.

On test, they started off at a modest 1/800sec and 1/700sec at full-power for the 400S and 800S (compared to actual shutter speeds – see How We Test panel), then at half-power the ECTC gets to work, cutting durations in speed mode to 1/3500sec and 1/1500sec, respectively. At quarter-power, the 800S catches up with the smaller head, and both then run progressively faster as power is reduced. At 1/32nd power, both heads are around the 1/8000sec mark with the 400S slightly faster, and it maintains a small advantage down to minimum output where durations were estimated at 1/14,000sec for the 400S, and 1/12,000sec for the 800S.

Colour temperature control is excellent, with a measured shift of only +/- 125K from neutral daylight in normal mode. Broncolor warns that in speed mode the colour is slightly more variable, though it actually changes very little and goes unnoticed in anything other than a side by side comparison, measuring +/- 250K from

PERFORMANCE RESULTS
Power output:
400S, f/16 +0.4 max, to f/1.0 +0.5 min, range 7.9 stops
800S, f/22 +0.5 max, to f/1.4 +0.6 min, range 7.9 stops (95cm octobox at 1.0m, ISO 100)
Recycle time:
Siros 400S, one second at max power
Siros 800S, 1.9 seconds at max power
Modelling lamp brightness:
Siros 400S, 7.3EV max, to 1.1EV min, range 6.2 stops
Siros 800S, 7.3EV max, to 0.9EV min, range 6.4 stops
Flash durations:
Siros 400S, 1/800sec max power; 1/9000sec at 1/32nd power; 1/14,000sec min power
Siros 800S: 1/700sec max power; 1/7000sec at 1/32nd power; 1/12,000sec min power (Speed mode, compared to equivalent shutter speeds)
Colour accuracy:
Siros 400S, +/- 125K in normal mode
Siros 800S, +/- 250K in Speed mode

VERDICT

These are very impressive heads from Broncolor, with exceptional performance at not quite such exceptional prices. Highlights are its very wide range of power, very fast flash durations and tight colour control, thanks to Broncolor's unique ECTC technology. The bronControl Wi-Fi app adds a sweet finishing touch.

Build quality	★★★★★
Features	★★★★★
Performance	★★★★★
Value	★★★★★
Overall	★★★★★

neutral. Most other manufacturers would be very happy with that, regardless.

There are two basic Siros models, with 400Ws or 800Ws power outputs, then various options, including the S versions here with speed mode and Wi-Fi that are probably the best bet. Or you can specify Siros with a Pocket Wizard trigger system built-in, including a tail-hypersync setting that can be useful in some situations, though it's not without some drawbacks.

ELINCHROM ELC PRO HD (500 and 1000)

SPECIFICATIONS

Street price: ELC 500 £714,
Street price: ELC 1000 £924 (head-only)
Max power: 500Ws and 1,000Ws
Min power: 8Ws, both heads
Power range: 6 stops down to 1/64th, & 7 stops 1/128th
Recycle time: Max power 0.6 and 1.2sec (fast mode)
Colour balance: 5500K at max power, both heads
Flash durations t.5: ELC 500, longest 1/2130sec;
shortest 1/5000sec. ELC 1000, longest 1/1110sec;
shortest 1/5260sec
Radio trigger: Built-in Skyport
Fan cooled: Yes
Modifier fitting: Elinchrom EL
Dimensions: 31.5 x 14 x 21cm (inc protective cap)
Weight: 2.35kg and 2.9kg
Contact: www.theflashcentre.com

THE ELC PRO HD studioflash heads have stood at the top of Elinchrom's comprehensive monolight range for a year or more now – above the great-value D-Lites, and well-specified BXR series. The ELC Pro HD heads have attracted attention with unusual features like a strobo-mode that can fire 20 flashes-per-second, but underlying the fireworks is a potent specification capable of thumping power, but with delicate control. Like those big floor-standing studioflash packs stuffed with lines of capacitors, the ELC Pro HD heads also have multiple capacitor banks sardine'd inside, harnessed by clever electronics to deliver a wide range of power, with fast flash durations and consistent colour throughout. And since no professional grade flash system is complete these days without studio-wide radio remote operation, Elinchrom's Skyport Wi-Fi and free app brings total control to your tablet or laptop.

The control panel and push-buttons will be familiar to Elinchrom users, with the addition of a large central knob and OLED display. There are lots of options here, and also handy information such as flash power in joules (same as Watt-seconds) and the flash duration as a t.5 number. It works very well – logical, easy, and useful.

The two Elinchrom ELC Pro HD heads are rated at 500Ws and 1,000Ws each. Power checked out at f/22 +0.3 for the 500Ws version, and a healthy f/32 +0.2 for the 1,000Ws. These are good big numbers, and with a wider range than usual they can also turn down low. The ELC Pro HD 500 goes down six stops (tested at 5.7 stops) and the 1000 model does even better at seven stops (tested at 6.7 stops). Power can be

adjusted in tenths with great accuracy. The modelling lamp is very bright, measuring 7.8EV on both models at full-power, and in proportional mode it tracks the flash brightness very closely.

Recycle times are exceptionally rapid, with the 1000 model at full-power taking only 1.1 seconds in fast mode, and the 500 version 0.7 seconds. They get much quicker at lower settings and can keep up with a camera running at ten frames-per-second, yet still put out as much light as a decent hotshoe flashgun. Flash durations are also fast, not as quick as the exceptional Broncolor Siros, but fast enough to freeze active subjects, like kids, at most power levels, and just about fast enough to freeze drops of liquid at optimum settings. This is where the flash duration readout on the OLED panel comes in very

handy, as there is no linear pattern to it, depending on the variable mixture of capacitors that the control electronics selects. At full-power, the ELC Pro HD 500 gave a shutter speed equivalent of 1/1500sec, with the 1000 head at 1/800sec. At minimum power, both heads are at 1/1800sec, and in the mid-range, they can get down to a fastest time of 1/3000sec, though flash durations close to that can also be had at several other power settings throughout the range – just scroll through on the OLED screen to find the best combination of power output and flash duration for the job in hand.

Another thing that the multiple capacitors approach does is control colour more tightly, and stop it getting too warm at lower power settings. The Macbeth colour chart recorded a maximum shift of +/- 200K with the ELC Pro HD 500 head, and +/- 175K with the 1000 model – both very good figures.



PERFORMANCE RESULTS

Power output:

500, f/22 +0.3 max, to f/2.8 +0.6 min, range 5.7 stops
1000, f/32 +0.2 max, to f/2.8 +0.5 min, range 6.7 stops
(95cm octobox at 1.0m, ISO 100)

Recycle time:

ELC 500, 0.7 seconds at max power, fast mode
ELC 1000, 1.1 seconds at max power, fast mode

Modelling lamp brightness:

ELC 500, 7.8EV max, to 2.8EV min, range 6.0 stops
ELC 1000, 7.8EV max, to 1.8EV min, range 7.0 stops

Flash durations:

ELC 500, 1/1500sec max power; 1/1800sec min power; fastest 1/3000sec
ELC 1000, 1/800sec max power; 1/1800sec min power; fastest 1/3000sec
(compared to equivalent shutter speeds)

Colour accuracy:

ELC 500, +/- 200K
ELC 1000, +/- 175K

VERDICT

What's most remarkable about the ELC Pro HD heads is the way they combine several important aspects of performance that are usually at odds. Big power with a wide range of output, fast flash durations, fine colour control, and fast recycle times. These are the hallmarks of a class act. All things considered, good value, too.

Build quality	★★★★★
Features	★★★★★
Performance	★★★★★
Value	★★★★☆
Overall	★★★★★

Test conclusion

The Broncolor Siros and Elinchrom ELC Pro HD heads stand clear at the top of the performance pile. It's the way they maintain such consistently high standards, throughout a very wide range of power, that sets a new benchmark for monolights. There's little to choose between them, though perhaps Elinchrom just edges it for all-round performance, winning on outright power and at a slightly keener price. On the other hand, if seriously fast flash durations are the order of the day, then the Broncolor takes it.



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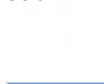
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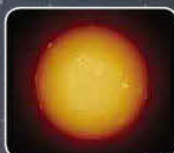
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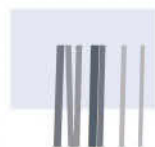
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Full Frame Sensor

1D X £4499

1D X Body £4499

Canon G7 X

20.2 megapixels
4.2x optical zoom

G7 X £399

G7 X Compact £399

£250 Cashback* offer available for 7D MkII and 5DS / 5DS R until 31.7.15

Canon Lenses

EF 24mm f1.4L II USM.....	£1224	EF-S 17-55mm f2.8 IS USM.....	£526
EF-S 24mm f2.8 Pancake.....	£139	Inc. £50 Cashback*.....	price you pay today £576
EF 40mm f2.8 STM.....	£104	EF-S 18-135mm f3.5-5.6 IS STM.....	£288
Inc. £25 Cashback*.....	price you pay today £129	Inc. £25 Cashback*.....	price you pay today £313
EF 50mm f1.4 USM.....	£244	EF 24-70mm f4.0 L IS USM.....	£705
EF 85mm f1.8 USM.....	£263	EF 24-105mm f3.5-5.6 IS STM.....	£375
EF 100mm f2.8 L IS USM Macro.....	£635	EF-S 55-250mm f4-5.6 IS STM.....	£200
EF 400mm f4 DO IS II USM.....	£6999	Inc. £25 Cashback*.....	price you pay today £225
EF-S 10-22mm f3.5-4.5 USM.....	£360	EF 70-200mm f4.0 L IS USM.....	£866
Inc. £50 Cashback*.....	price you pay today £410	EF 70-300mm f4-5.6 IS USM.....	£318
EF 16-35mm f4 L IS USM.....	£737	Inc. £50 Cashback*.....	price you pay today £368
NEW EF 11-24mm f4L USM.....	£2799	EF 100-400mm f4.5-5.6 L IS II USM.....	£1999

Canon Cashback* ends 19.8.15

Photo Bags & Rucksacks

Lowepro Toploader Pro 70 AW II

Perfect for carrying a Pro DSLR plus 24-70mm lens or 24-24mm lens plus accessories.

Toploader:
Pro 70 AW II.....£66
Pro 75 AW II.....£71

ProTactic 350 AW

Perfect for carrying 1-2 Pro DSLRs (one with up to 24-70 attached), up to 6 lenses/speedlights, a 13" laptop and accessories.

ProTactic:
350 AW.....£170
450 AW.....£210

Apache 2 Messenger Bag

Perfect for carrying DSLR or compact system camera with 18-55mm lens attached, an extra lens (such as a 55-200mm), a small flashgun, and accessories.

Apache:
Apache 2.....£59
Apache 4.....£79
Apache 6.....£99

Tripods & Tripod Heads

Manfrotto MT055XPRO3

• 160cm Max Height
• 9cm Min Height

MT055XPRO3.....£159
+ X-Pro 3-Way Head.....£219
MK055XPRO3.....£169
+ 498RC2 Ball Head.....£329
MT055CXPRO3.....£329
Carbon Fibre.....£319
MT190 Series:
MT190XPRO3.....£149

Manfrotto MT190XPRO4

• 178cm Max Height
• 16cm Min Height

MT190XPRO4.....£169
Carbon Fibre.....£279
MT190CXPRO4.....£279
Carbon Fibre.....£129
+ 498RC2 Ball Head.....£189

We sell tripod accessories including plates and spiked feet on our website!

JOBY SLR Zoom

• Flexi-Tripod legs
• 25cm Closed Length
• 3Kg Max Load

GT3542L.....£17
GT1532.....£29
GT2542.....£39
GT3542L.....£79

Gorillapod:

Compact.....£17
Hybrid (Integral Head).....£29
SLR Zoom.....£39
Focus GP-8.....£79

Manfrotto 327RC2 Joystick Head

Ball Heads:
494RC2.....£45
498RC2.....£74
324RC2.....£99
327RC2.....£137

Lighting & Accessories

Canon 430EX II

£40 Cashback*

430EX II £149
Inc. £40 C/back*
price you pay today £189

SB910

LED Lights From £29.99

Ezybox Speed-Lite Softbox

£44.99

L308s

£149

Plus III Set

£229

Light Stands

From £10.99

Geminipulsar Tx 500R Kit

£895

D-Lite 4R Softbox Kit

£629

Urban Collapsible Background

£165

Nikon D3300

24.2 megapixels
5.0 fps

£30 Cashback*

D3300 From £353

D3300 Body £323 Including £30 Cashback*
price you pay today £353
D3300 + 18-55mm VR II £359 Including £30 Cashback*
price you pay today £389

Nikon D5500

24.2 megapixels
5.0 fps

£60 Cashback*

D5500 Body £608

D5500 + 18-55mm VR II £576 Including £60 Cashback*
price you pay today £636
D5500 + 18-140mm VR £819 Including £60 Cashback*
price you pay today £879

Nikon D7100

24.1 megapixels
6.0 fps

D7100 From £749

D7100 Body £749
D7100 + 18-105mm VR £899

Nikon D7200

24.2 megapixels
6.0 fps
1080p movie mode

NEW D7200 £920

D7200 Body £920
D7200 + 18-105mm £1097

Nikon D610

24.3 megapixels
6.0 fps
1080p movie mode

D610 From £1199

D610 Body £1199
D610 + 24-85mm £1599

Nikon D750

24.3 megapixels
6.5 fps
Full Frame Sensor

D750 £1749

D750 Body £1749
D750 + 24-85mm VR £2199
D750 + 24-130mm VR £2299

Nikon D810

36.3 megapixels
7.0 fps
Full Frame Sensor

D810 £2399

D810 Body £2399
NEW D810A Body £2999

Nikon D4s

16.3 megapixels
11.0 fps
Full Frame Sensor

D4s £4449

D4s Body £4449

Nikon Df

16.2 megapixels
5.5 fps
Full Frame Sensor

Df From £1999

Df Body £1999
Df + 50mm £2099

For 2 year warranty on any camera and lens kit simply register your new Nikon within 30 days of purchase. Offer applies to UK & Republic of Ireland stock only. Call 0800 597 8472 or visit www.nikon.co.uk/register

Nikon Lenses

35mm f1.8 G AF-S DX.....	£148	70-300mm f4.5-5.6 G AF-S IF ED VR.....	£406
40mm f2.8 G AF-S DX Micro.....	£185	80-400mm AF-S Nikkor f4.5-5.6G ED VR.....	£1899
85mm f1.8 G AF-S.....	£349	18-300mm f3.5-6.3 G ED VR AF-S DX.....	£549
105mm f2.8 G AF-S VR IF ED Micro.....	£619	Inc. £50 Cashback*.....	price you pay today £599
10-24mm f3.5-4.5 G AF-S DX.....	£639	55-300mm f4.5-5.6 G AF-S DX VR.....	£254
18-200mm f3.5-5.6 G ED AF-S DX VR II.....	£584	Inc. £25 Cashback*.....	price you pay today £279
18-300mm f3.5-5.6 AF-S ED VR.....	£669	55-200mm f4-5.6 G ED VR II DX AF-S.....	£259
24-70mm f2.8 G AF-S ED.....	£1235	Inc. £20 Cashback*.....	price you pay today £279
70-200mm f2.8 G AF-S ED VR II.....	£1579	55-200mm f4-5.6 G AF-S DX.....	£180
		Inc. £15 Cashback*.....	price you pay today £195

Nikon Cashback* ends 26.8.15

Manfrotto Professional Backpacks

Professional range of backpacks designed to hold a pro digital SLR, lenses, and several accessories.

Professional Backpack 20.....£99.95
Professional Backpack 30.....£179
Professional Backpack 50.....£179

Billingham

Hadley Pro Original Canvas Khaki/Tan

Hadley: Canvas/Leather: Khaki/Tan, Black/Tan, Black/Black.
Fibre/Nylon/Leather: Khaki/Tan, Sage/Tan, Black/Black.

Digital.....£109
Small.....£139
Large.....£154
Pro Original.....£169
Tripod Strap Black or Tan.....£19

DOMKE RuggedWear

F-803 RuggedWear

RuggedWear:
F-5XB.....£72
F-5XZ.....£99.95
F-6.....£99
F-803.....£139
F-2.....£149

Pre-Loved cameras

Quality used cameras, lenses and accessories with 12 months warranty*

www.wex.co.uk/pre-loved

*Excludes items marked as incomplete or for spares

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The art of light

Total control. Wirelessly.

Nissin Air System (NAS)

Introducing NAS, the new Nissin 2.4GHz radio transmission wireless flash system, with the new Di700A flash gun and Commander Air 1 control unit.

Unlike traditional optical wireless transmitters, 2.4GHz radio transmission is less susceptible to obstructions or angles and provides coverage up to 30 metres.

The Commander Air 1 can control 3 groups of Nissin Air System flash guns (up to 21 units) via its user-friendly LED control panel and selector dial. Giving you total control over your lighting at the touch of a finger.

The Di700A and Commander Air 1 are available in Canon, Nikon and Sony fit.

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Di700A + Air 1 



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Back Caps

Canon AF
Canon FD
M42 screw
Sony/Min AF
Sony NEX
Minolta MD
Nikon
Olympus OM
Olympus 4/3
Olympus m 4/3
Pentax K
Yashica/Contax
Fuji X
Leica R
Leica M
Leica L39
Samsung NX



Body Caps

Canon AF
Canon FD
M42 screw
Sony/Min AF
Sony NEX
Minolta MD
Nikon
Olympus OM
Olympus 4/3
Olympus M4/3
Pentax K
Contax/Yashica

Adapters

Camera - Lens Adapters

Can AF - FD
Can AF - M42
Can AF - Nikon
Can FD - M42
Oly M4/3 - CAF
Olym 4/3 - Can AF [With aperture ring]
Oly M4/3 - Nikon
Oly M4/3 - Nikon [With aperture ring]
Oly M4/3 - Leica M
Sony/Min AF - MD
Sony/Min AF - M42
Minolta MD - M42
Nikon - M42
Pentax K - M42
Sony NEX - Can AF
Sony NEX - Sony/Min AF
Sony NEX - Nikon AI
Sony NEX - Nik AI and G
Sony NEX - PK
Sony NEX - Leica M
Sony NEX - Can AF with aperture ring
Yash/Can - M42

C Mounts

Canon AF
Canon FD
M42
Nikon
Olympus OM
C Mount Oly 4/3
C Mount - Oly Micro 4/3
Pentax K
T2 Thread
Sony NEX
Can AF



T2 Adapters

Can AF
Can FD
Konica
Nikon
Olympus OM
Olympus AF
Olympus 4/3
Oly Micro 4/3
Praktica B
Sony/Min AF
Minolta MD
Pentax K
Yashica Contax
Yashica Contax AF



Series 7

37mm
46mm
49mm
52mm
55mm
58mm
62mm
67mm



Reversing Rings

Can AF 52mm
Can AF 58mm
Can FD 52mm
Can FD 55mm
Yash/Cont 52mm
M42 49mm
M42 52mm
M42 55mm
M42 58mm
Min MD 49mm
Min MD 52mm
Min MD 58mm
Sony/Min AF 55
Nikon 52mm
Nikon 58mm
Praktica B 49mm
Pentax K 49mm
Pentax K 52mm
Pentax K 55mm
Pentax K 58mm

Camera Viewing accessories

Screen Hoods
Canon 50D
Canon 350D
Canon 450D
Nikon D70
Nikon D80
Nikon D300
Full shield magnifying Screen Hoods
Canon 50/70/500D
Canon 550d/Nikon 500D
Canon 60D/600D

Eye Cups

Canon 550D type
Nikon D300 type
Chinon
Fujica
Nikon F type
Praktica
Prism Right Angle Viewer

Shutter Release Items

10" Metal Cable Release
18" Metal Cable release
24" Metal Cable release
36" Metal Cable release
10" Vinyl Cable release
18" Vinyl Cable Release
20" Vinyl Cable release
36" Vinyl Cable release
20" Air release



Camera Care Items

Medium: Hurricane Blower
Large Blower Brush
Medium Blower Brush
Small Blower brush
Lipstick Lens Brush
Lens Tissues
Small Micro Fibre
Large Micro Fibre
(Lens cloth)
Lens Cleaning Solution
4 Piece Cleaning set
7 Piece Cleaning Set
(In White Snap Box)
2 x Silica Gel
4 x Silica Gel
3 x Digital Screen Protect
(Squeegee and cleaning)
Contact Cleaning Pen
Red Eye Pen



Camera Sling Strap

Concealed Wire, tripod
Bush attach strap
Double concealed wire strap
Wrist strap bush fitting

Comfort Straps

Backing, reverse quick release
Catches Makes hand strap
Black
Royal Blue
For Canon
For Nikon
For Minolta
For Minolta
For Pentax
For Olympus

30mm-38mm Wide Straps

Plain Black, embossed
For Canon, embossed
For Nikon, embossed
For Minolta, embossed
For Olympus, embossed
For Pentax, embossed
Hand Grip with Camera Platform
Narrow black strap 25mm



Loop Fitting Strap

Metallic Neck Strap
Metallic Wrist Strap

Rain Covers

Basic Rain Cover
Large
Medium
Summer
Winter



Dark Room

16"x17" Changing Bag
27"x29" Changing Bag#
3"x45" Changing Bag
10 piece Film Dev Kit
14 Piece film and print Dev Kit
Dark Room Apron
Straight Tank Thermometer
25mm Dial thermometer
45mm Dial thermometer
2 XS/Steel film Clips
3 x Bamboo Print Tongs
Print/film squeegee
Univ Dev Tank 2 x Spirals
35mm Dev Tank
Spare Univ Spiral
3 x 7"x10" Dev Trays
3 x 12"x10" Dev Trays
3 x 12"x16 Dev Trays
3 x 16"x20" Dev Trays
3 x 16"x20" Dev Trays



Graduated Beakers with Handle

500cc
1000cc
2000cc

Graduated H/Duty Measures

50cc
100cc
250cc
300cc
650cc
1000cc

Safelights free standing Or wall fixing

Yellow
Green
Orange
Red

Flash Accessories

Inverted cone attachment give soft daylight result for

Canon 420EX
Canon 580EX
Canon 380EX
Nikon SB 600
Nikon SB 900

Diffusers

Canon 380EX
Canon 420EX
Canon 430EX
Canon 540EX
Canon 550EX
Canon 580EX
Canon 600EX
Nikon SB600
Nikon SB800
Nikon SB900

Flash Brackets

Straight Flash Bracket
Angle Flash Bracket
Pro Bracket 1
Pro Bracket 2
Pro Bracket 3
Pro Bracket 5
Pro Bracket 5
Hot Shoe Co axial
Hot shoe with lead
Flash Slave Unit
Flash Slave Unit with Sucker
Flash Slave Nikon TTL



Flash Leads Pc Pc

.05m Straight
1m Straight
3m Straight
3m Straight
5m Straight
10m Straight
3m Coiled
5m Coiled



Flash Leads PC- two pin AC

0.5m straight
1m straight
2m straight
3m straight
5m straight

Film Items

Film Cement
100 x super 8 splicing tape
Super 8 Tape Splicer
35mm Plastic reloadable
Cassettes
Film Cassette Opener
Bulk Film Loader
Attaché case 5 x .50 din mag
Attaché Case up to 600 slides
APS Film Case
Daylight Slide Viewer
3 x Mag Slide Viewer
2 X Mag Slide Viewer
Auto Slide Viewer
5"x4" Slide Sorter
6"x10" Slide Sorter
Box of 6 Acrylic Slide panels
Twin 50 Din Mag
Twin 50 CS Mag
Hanimax Randal Mag
Hanimax Straight
Kodak Carousel c/w lid

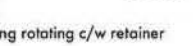


Filter Accessories/Rings

2x Filter Wrench 48 - 58mm
2x Filter Wrench 62 - 77mm
Folding Filter Pouch 4 x - 86mm
Folding Filter Pouch 4 x - 67mm
Folding Filter Pouch 9 x - 86mm
Folding Filter Pouch 9 x - 67mm

Filter Rings with Ret also can be used as distance rings - black

25.5mm
27mm
28mm
30mm
30.5mm
34mm
35.5mm
37mm
37.5mm
40.5mm
43mm
46mm
48mm
49mm
52mm
55mm
58mm
62mm
62mm deep
67mm
72mm
72mm deep
77mm
82mm
86mm
95mm
105mm
127mm



Filter Ring rotating c/w retainer

46mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm
82mm
86mm



Lens Hood

Collapsible rubber

40.5mm
43mm
46mm
49mm
52mm



55mm
58mm
67mm
72mm
77mm

Wide Angle

49mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm



Combi Two stage WA - Tele

49mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm



Non Collapsible Lens Hood

Petal Hood Screw fit can be Rotated to centralise

49mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm



Metal

27mm
28mm
30mm
30.5mm
34mm
37mm
40.5mm
43mm
46mm
48mm
82mm
Leica type Metal Hoods
37mm
39mm
40.5mm
43mm
49mm
Fuji X



Lens Caps

Snap Caps

27mm
28mm
30/30.5mm
34mm
37mm
40.5mm
43mm
46mm
48mm
49mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm
82mm
86mm
95mm
105mm



With center grips

49mm
52mm
55mm
58mm
62mm
67mm
72mm
77mm



White Balance Snap Caps

52mm
55mm
58mm
62mm
67mm
72mm
77mm
82mm



Lens Pouches

With draw string

75x90mm
75x110mm
90x140mm
90x170mm
90x200mm

Zippered lid and filter compartment

Small
Medium
Large
Extra Large

Shoe Fitting Spirit Levels

2 Way
2 Way for Sony
3 Bubble
3 Bubble for Sony



Stepping Rings

Stepping Ring 25-28mm
Stepping Ring 25-30mm
Stepping Ring 25-37mm
Stepping Ring 27-28mm
Stepping Ring 27-30mm
Stepping Ring 27-37mm
Stepping Ring 27-43mm
Stepping Ring 27-46mm
Stepping Ring 27-49mm
Stepping Ring 27-52mm
Stepping Ring 28-27mm
Stepping Ring 28-30mm
Stepping Ring 28-30.5mm
Stepping Ring 28-35.5mm
Stepping Ring 28-37mm
Stepping Ring 30.5-25mm
Stepping Ring 30.5-27mm
Stepping Ring 30.5-28mm
Stepping Ring 30.5-33mm
Stepping Ring 30.5-35.5mm
Stepping Ring 30.5-37mm
Stepping Ring 30.5-43mm
Stepping Ring 30.5-46mm
Stepping Ring 30.5-49mm
Stepping Ring 30.5-52mm
Stepping Ring 30-25mm
Stepping Ring 30-28mm
Stepping Ring 30-30.5mm
Stepping Ring 30-33.5mm
Stepping Ring 30-37mm
Stepping Ring 30-43mm
Stepping Ring 30-46mm
Stepping Ring 30-49mm
Stepping Ring 32.5-37mm
Stepping Ring 34-37mm
Stepping Ring 34-43mm
Stepping Ring 34-46mm
Stepping Ring 34-49mm
Stepping Ring 35.5-37mm
Stepping Ring 35.5-49mm
Stepping Ring 36-37mm
Stepping Ring 37.5-37mm
Stepping Ring 37.5-43mm
Stepping Ring 37.5-46mm
Stepping Ring 37.5-49mm
Stepping Ring 37.5-52mm
Stepping Ring 37-27mm
Stepping Ring 37-28mm
Stepping Ring 37-30mm
Stepping Ring 37-30.5mm
Stepping Ring 37-34mm
Stepping Ring 37-35.5mm
Stepping Ring 37-37mm
Stepping Ring 37-37.5mm
Stepping Ring 37-40.5mm
Stepping Ring 37-42mm
Stepping Ring 37-43mm
Stepping Ring 37-46mm
Stepping Ring 37-49mm
Stepping Ring 37-52mm
Stepping Ring 37-55mm
Stepping Ring 37-58mm
Stepping Ring 38.1-49mm
Stepping Ring 38.1-52mm
Stepping Ring 38.1-55mm
Stepping Ring 38.1-58mm
Stepping Ring 39-46mm
Stepping Ring 39-49mm
Stepping Ring 39-52mm
Stepping Ring 40.5-37mm
Stepping Ring 40.5-43mm
Stepping Ring 40.5-46mm

Stepping Ring 40.548mm
Stepping Ring 40.549mm
Stepping Ring 40.552mm
Stepping Ring 43.34mm
Stepping Ring 43.37mm
Stepping Ring 43.39mm
Stepping Ring 43.46mm
Stepping Ring 43.49mm
Stepping Ring 43.52mm
Stepping Ring 43.58mm
Stepping Ring 43.62mm
Stepping Ring 46.37mm
Stepping Ring 46.43mm
Stepping Ring 46.48mm
Stepping Ring 46.49mm
Stepping Ring 46.52mm
Stepping Ring 46.55mm
Stepping Ring 46.58mm
Stepping Ring 46.62mm
Stepping Ring 46.67mm
Stepping Ring 48.43mm
Stepping Ring 48.46mm
Stepping Ring 48.49mm
Stepping Ring 48.52mm
Stepping Ring 48.55mm
Stepping Ring 48.58mm
Stepping Ring 48.69mm
Stepping Ring 49.34mm
Stepping Ring 49.37mm
Stepping Ring 49.39mm
Stepping Ring 49.43mm
Stepping Ring 49.46mm
Stepping Ring 49.48mm
Stepping Ring 49.52mm
Stepping Ring 49.55mm
Stepping Ring 49.58mm
Stepping Ring 49.62mm
Stepping Ring 49.67mm
Stepping Ring 49.72mm
Stepping Ring 49.77mm
Stepping Ring 50.49mm
Stepping Ring 50.52mm
Stepping Ring 50.55mm
Stepping Ring 50.58mm
Stepping Ring 52.37mm
Stepping Ring 52.43mm
Stepping Ring 52.46mm
Stepping Ring 52.48mm
Stepping Ring 52.49mm
Stepping Ring 52.55mm
Stepping Ring 52.58mm
Stepping Ring 52.62mm
Stepping Ring 52.67mm
Stepping Ring 52.72mm
Stepping Ring 52.77mm
Stepping Ring 55.37mm
Stepping Ring 55.46mm
Stepping Ring 55.48mm
Stepping Ring 55.49mm
Stepping Ring 55.52mm
Stepping Ring 55.58mm
Stepping Ring 55.62mm
Stepping Ring 55.67mm
Stepping Ring 55.72mm
Stepping Ring 55.77mm
Stepping Ring 58.37mm
Stepping Ring 58.46mm
Stepping Ring 58.48mm
Stepping Ring 58.49mm
Stepping Ring 58.52mm
Stepping Ring 58.55mm
Stepping Ring 58.62mm
Stepping Ring 58.67mm
Stepping Ring 58.72mm
Stepping Ring 58.77mm
Stepping Ring 60.62mm
Stepping Ring 62.46mm
Stepping Ring 62.49mm
Stepping Ring 62.52mm
Stepping Ring 62.55mm
Stepping Ring 62.58mm
Stepping Ring 62.67mm
Stepping Ring 62.72mm
Stepping Ring 62.77mm
Stepping Ring 62.79mm
Stepping Ring 62.82mm
Stepping Ring 69.52mm
Stepping Ring 69.62mm
Stepping Ring 69.67mm

Stepping Ring 69.72mm
Stepping Ring 69.77mm
Stepping Ring 72.52mm
Stepping Ring 72.58mm
Stepping Ring 72.62mm
Stepping Ring 72.67mm
Stepping Ring 72.77mm
Stepping Ring 72.82mm
Stepping Ring 72.86mm
Stepping Ring 72.95mm
Stepping Ring 77.52mm
Stepping Ring 77.58mm
Stepping Ring 77.62mm
Stepping Ring 77.67mm
Stepping Ring 77.72mm
Stepping Ring 77.82mm
Stepping Ring 82.67mm
Stepping Ring 82.72mm
Stepping Ring 82.77mm
Stepping Ring 82.86mm
Stepping Ring 86.82mm
Hasselblad Adapter B50-52
Hasselblad Adapter B50-55
Hasselblad Adapter B50-58
Hasselblad Adapter B50-67
Hasselblad Adapter B60-58
Hasselblad Adapter B60-62
Hasselblad Adapter B70-72
Rollei Adapter 66-67mm
Rollei Adapter 66-72mm

Scrapbook 3L

- Photo Corners
- Photo Corners
- ers
- corners
- ers
- Photo Corners
- Photo Corners
- Photo Corners
- led Pads
- ermanent
- e
- ie sided Tape

Tripods and Ball Heads

Tripod Bushes Eng - Cont

Pro Tripods with long and short col, 3 step leg play, bag hook, case

Shoulder strap

28mm Alloy 4 section

22mm 4 Section Carbon Fibre

28mm 4 Section Carbon Fibre

32mm 4 Section Carbon Fibre

Spare Tool Kit

Pro Monopods 4 section

27mm Alloy with tilt Platform

28mm 4 Section Carbon Fibre with Ball

Pod Foot

32mm 4 Section Carbon Fibre with Ba

Pod Foot

Light weight Alloy with pan tilt, spiri

level Gearing centre col. Plus case

23mm three section

26mm three section

Ball and Socket Heads

24mm series 0

30mm series 0

36mm series Q
105mm 3 Way
120mm 3 Way
Std BS large
Std BS small
QR Plate 1
QR Plate 2
QR Plate 3
QR Plate 4
QR Plate 5
QR Plate 6
QR Plate 7 for L/Alloy



Flexible Grip Pods

Small
Medium
Large
Wire Flexi Pod
G Clamp with ball head

KOOD DSLR Rigs

K Rig b1
K Rig 2
K Rig 3
K Rig 4
Camera Cage

KOOD Stead Cam

120cm Steady Cam
1 Spring vest
2 Spring Vest
60cm Steady Cam



Tracked Slider

60cm, 80cm, 100cm, 120cm

Skate Wheeled Dollies

K Small 4 wheels
K Big 4 Wheels 2 x stands
K Big 3 Wheels
K 2 x Dolly Stands

Follow Focus Devices

0 for rods/QR Clamp, Lens Gear Belt
1 for rods, Lens gear belt
2 for Camera, L Mount, Lens Gear Belt
3 Rods, Hard Stoppers, Lens Gear Belt
4 for Rods Hard Stopper,
Quick release, Lens Gear Belt

Matte Boxes

KM1	KM2	KM3
-----	-----	-----

Support Items

- 7" Arm
- 11"m
- Arm Rod Clamp
- Super crab Clamp
- Speed crank for FQ-4
- 12" Whip
- 18" Whip
- Large Lens Support
- LENS Gear Belt
- Zoom Lever Gear Ring
- 18mm Connectors and Rods fr Rig 1
- C Arm and Top Handle
- Platform with 40cm Rods
- L connector
- Z Connector

Complete Rigs

Rig 1 with Top Handle
Rig 2 With Top |Handle
Rig 3 F/Focus 4, KM2,
Crank, Whip and case.
Rig 4, KF3, KM3
Cage set connector 2, Rods,
Top Handle KF 1, KM 1

CAN BE ORDERED FROM ANY INDEPENDENT RETAILER

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HIGH DEFINITION GRADIENTS FOR HIGH PIXEL COUNT SLR CAMERAS

- 1) KOOD uses small untoughend, thick Pilkington Optical Glass Mold's to produce the highest possible optically flat resin Filters without curvature to ensure infinity focus
- 2) Casting system eliminates all bleach so no loss of density or colour over time
- 3) Batch tested every 12 filters to maintain good neutrality
- 4) All filters packed in between card, in wallets which allow no movement or dust
- 5) KOOD Manufactures its own filters from casting to packing

A FILTER TO FIT ALL COKIN A SIZE SYSTEMS



A Filter Holder Set Adapter Rings Only Fit Kood Holder

A Filter Holder Cap
A Filter Holder Hood
A Adapter Ring 37mm
A Adapter Ring 38.1mm
A Adapter Ring 40.5mm
A Adapter Ring 46mm
A Adapter Ring 49mm
A Adapter Ring 52mm
A Adapter Ring 55mm
A Adapter Ring 58mm
A Adapter Ring 62mm

GRADIENTS

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Cool Blue Gradient
Light Green Graduated
Dark Green Graduated
Light Mauve Graduated
Dark Mauve Graduated
Light Red Graduated
Dark Red Graduated
Light Tobacco Graduated
Dark Tobacco Graduated
Light Fog Graduated
Strong Fog Graduated
Light Yellow Graduated
Dark Yellow Graduated
Light Sunset Graduated
Dark Sunset Graduated

POLARIZERS

Linear Polariser Filter
Circular Polariser Filter

NEUTRAL DENSITY

Neutral Density 2
Neutral Density 4
Neutral Density 8

STARS AND DIFFRACTIONS

Star x 4
Star x 6
Star x 6 with centre spot
Star x 8
Diffraction 2x
Diffraction 36x
Diffraction 4x
Diffraction Star 4
Diffraction Star 8
Diffraction Square
Diffraction Halo

CLOSE UP'S

Close Up 1
Close Up 2
Close Up 4
Split Field

MULTI IMAGE AND SPEED

Multi Image 3
Multi Image 5
Multi Image 7
Speed

COLOURS

20 x Polyester colour set
Yellow
Orange
Green
Red
Sepia
Sky



CONVERSION

20 x Wratten polyesters set

80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLB
FLW



DOUBLE EXPOSURE AND MASKS

A Double Exposure
A Double Mask 1
A Double Mask 2
A PSF



DIFFUSERS AND FOGS

A light Diffuser
A Strong Diffuser
A Fog 1
A Fog 2

NETS

Net Blue
Net Grey
Net Green
Net Orange
Net Red
Net Violet
Net White



SPOTS

Oval Spot Blue
Oval Spot Clear
Oval Spot Grey
Oval Spot Red
Oval Spot White
Spot Blue
Spot Clear
Spot Grey
Spot Green
Spot Orange
Spot Red
Spot Violet
Spot White
Wide Spot Blue
Wide Spot Clear
Wide Spot Grey
Wide Spot Green
Wide Spot Orange
Wide Spot Red
Wide Spot Violet
Wide Spot White



P SYSTEM TO FIT ALL COKIN P SIZE SYSTEMS

P Size Holder Kood Adaptor Filter Rings + Cokin Holders

P Adapter Ring 38.1mm
P Adapter Ring 49mm
P Adapter Ring 52mm
P Adapter Ring 55mm
P Adapter Ring 58mm
P Adapter Ring 62mm
P Adapter Ring 67mm
P Adapter Ring 72mm
P Adapter Ring 77mm
P Adapter Ring 82mm



GRADIENTS

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Cool Blue Graduated
Light Green Graduated
Dark Green Graduated
Light Grey Graduated

Light Mauve Graduated
Dark Mauve Graduated
Light Red Graduated
Dark Red Graduated
Light Tobacco Graduated
Dark tobacco Graduated
Light Yellow Graduated
Dark Yellow Graduated
Light Sunset Graduated
Dark Sunset Graduated



POLARIZERS

Linear Polariser
Circular Polariser

NEUTRAL DENSITY

ND400 9 Stops (Japanese Glass)
available Round (Back Slot) Square
(for use with PL, star etc)
ND16 4 Stops (Japanese Glass)
Neutral Density x2
Neutral Density x4
Neutral Density x8
Neutral Density x8 (Glass)

INFRA RED 720 P FILTER

Infra Red 720 Optical Glass

STARS AND DIFFRACTIONS

Starburst x4
Starburst x6
Starburst x8
Diffraction 2x
Diffraction 36x
Diffraction Double Halo
Diffraction Halo
Diffraction 4x Star
Diffraction Filter DS8
Diffraction Square



CLOSE UP FILTERS

Close up +1
Close up +2
Close Up +4
Split Field

COLOURS

Yellow
Orange
Green
Red
Skylight
Sepia



DIFFUSERS AND FOGS

Light Diffuser
Strong Diffuser
Light Fog
Strong Fog

CONVERSION FILTERS

80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLD
FLB



DOUBLE EXPOSURE

Double Exposure
Solar Eclipse Filter

SPOTS

Blue Clear Spot
Clear Spot
Green Clear Centre Spot
Grey Clear Spot
Orange Clear Spot
Clear Oval Spot
Grey Oval Spot
White Oval Spot
Red Clear Spot
Violet Clear Spot
White Clear Spot



Z 100 MM FILTERS GRADIENTS 100 X 125MM

0.3 ND Gradient Soft
0.3 ND Gradient Hard Cut
0.6 ND Gradient Soft
0.6 ND Gradient Hard Cut
0.9 ND Gradient Soft
0.9 ND Gradient Hard Cut
Light Blue Graduated
Dark Blue Graduated
Light Green Graduated
Dark Green Graduated
Light Tobacco Graduated
Dark tobacco Graduated
Light Sunset Graduated
Dark Sunset Graduated



NEUTRAL DENSITY

Neutral Density 2
Neutral Density 4

DIFFUSERS AND FOGS

Diffuser Light
Diffuser Strong
Fog 1
Fog 2

COLOURS

Yellow
Orange
Red
Green
Sepia
Skylight



CONVERSION FILTERS

80A
80B
80C
81A
81B
81C
82A
82B
82C
85A
85B
85C
FLB



Spot Clear
Spot Oval
Spot White

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TRADE AND IMPORTERS CAN PAY BY



KOOD

KOOD MANUFACTURE THE MOST COMPREHENSIVE RANGE OF FILTERS AVAILABLE



All Japanese filters are packed in a twist box

Underwater Filters Blue water for water with Coral

UK OPTICAL RESIN MADE IN UK

Blue Water 100mm x 100mm
Blue Water 104mm Disc
Blue Water 125mm x 125mm
Blue Water 27mm
Blue Water 30mm
Blue Water 30.5mm
Blue Water 34mm
Blue Water 37mm
Blue Water 40.5mm
Blue Water 43mm
Blue Water 46mm
Blue Water 49mm
Blue Water 52mm
Blue Water 55mm
Blue Water 58mm
Blue Water 62mm
Blue Water 67mm
Blue Water 72mm

For water without Coral

Green Water 100mm x 100mm
Green Water 104mm Disc
Green Water 125mm x 125mm
Green Water 27mm
Green Water 30mm
Green Water 30.5mm
Green Water 34mm
Green Water 37mm
Green Water 40.5mm
Green Water 43mm
Green Water 46mm
Green Water 49mm
Green Water 52mm
Green Water 55mm
Green Water 58mm
Green Water 62mm
Green Water 67mm
Green Water 72mm

SLIM KOOD FILTERS MADE IN CHINA

UVC 46mm
UVC 49mm
UVC 52mm
UVC 55mm
UVC 58mm
UVC 62mm
UVC 67mm
UVC 72mm
UVC 77mm
UVC 82mm
UVC 86mm
52mm UV Multi Coated
55mm UV Multi Coated
58mm UV Multi Coated
62mm UV Multi Coated
67mm UV Multi Coated
72mm UV Multi Coated
77mm UV Multi Coated
82mm UV Multi Coated
86mm UV Multi Coated
46mm PLC
49mm PLC
52mm PLC
55mm PLC
58mm PLC
62mm PLC
67mm PLC
72mm PLC
77mm PLC
82mm PLC
86mm PLC

OPTICAL FILTERS MADE ON A MERCURY BED MADE IN JAPAN

UV 24mm
UV 25mm
UV 27mm
UV 28mm
UV 30mm
UV 30.5mm
UV 34mm
UV 35.5mm
UV 37mm
UV 39mm
UV 40.5mm
UV 43mm
UV 46mm
UV 48mm
UV 49mm
UV 52mm
UV 55mm
UV 58mm
UV 62mm
UV 67mm
UV 72mm
UV 77mm
UV 82mm
UV 86mm

OPTICAL FILTER GROUND GLASS

Skylight 1B 37mm
Skylight 1B 40.5mm
Skylight 1B 43mm
Skylight 1B 46mm
Skylight 1B 48mm
Skylight 1B 49mm
Skylight 1B 52mm
Skylight 1B 55mm
Skylight 1B 58mm
Skylight 1B 62mm
Skylight 1B 67mm
Skylight 1B 72mm
Skylight 1B 77mm
Skylight 1B 82mm

OPTICAL FILTERS MADE ON A MERCURY BED

Skylight 24mm
Skylight 25mm
Skylight 25.5mm
Skylight 27mm
Skylight 28mm
Skylight 30mm
Skylight 30.5mm
Skylight 34mm
Skylight 35.5mm
Skylight 37mm
Skylight 37.5mm
Skylight 40.5mm
Skylight 43mm
Skylight 46mm
Skylight 48mm
Skylight 49mm
Skylight 52mm
Skylight 55mm
Skylight 58mm
Skylight 62mm
Skylight 67mm
Skylight 69mm
Skylight 72mm
Skylight 77mm
Skylight 82mm
Skylight 86mm
Skylight 95mm

INFRA RED 720nm Opt. GROUND GLASS

Infra Red 49mm
Infra Red 52mm
Infra Red 55mm
Infra Red 58mm
Infra Red 62mm
Infra Red 67mm
Infra Red 72mm
Infra Red 77mm
Infra Red 82mm
Infra Red 86mm
Skylight 105mm

Opt. GROUND GLASS 2 STOPS

ND4 27mm
ND4 28mm
ND4 30.5mm
ND4 34mm
ND4 35.5mm
ND4 37mm
ND4 37.5mm
ND4 40.5mm
ND4 43mm
ND4 46mm
ND4 48mm
ND4 49mm
ND4 52mm
ND4 55mm
ND4 58mm
ND4 62mm
ND4 67mm
ND4 72mm
ND4 77mm

THREE STOP

ND8 37mm
ND8 40.5mm
ND8 46mm
ND8 49mm
ND8 52mm
ND8 55mm
ND8 58mm
ND8 62mm
ND8 67mm
ND8 72mm
ND8 77mm

4 STOPS
ND16 46mm
ND16 52mm
ND16 55mm
ND16 58mm
ND16 62mm
ND16 67mm
ND16 72mm
ND16 77mm
ND16 82mm

Opt. GROUND GLASS

9 STOPS
ND 400 52mm
ND 400 58mm
ND 400 62mm
ND 400 67mm
ND 400 72mm
ND 400 77mm
ND 400 82mm

Opt. GROUND

Polariser Linear 39mm
Polariser Linear 43mm
Polariser Linear 46mm
Polariser Linear 48mm
Polariser Linear 49mm
Polariser Linear 52mm
Polariser Linear 55mm
Polariser Linear 58mm
Polariser Linear 62mm
Polariser Linear 67mm
Polariser Linear 72mm
Polariser Linear 77mm
Polariser Linear 82mm
Polariser Linear 86mm

Polariser Circular 25mm
Polariser Circular 25.5mm
Polariser Circular 27mm
Polariser Circular 28mm
Polariser Circular 30mm
Polariser Circular 30.5mm
Polariser Circular 34mm
Polariser Circular 35.5mm
Polariser Circular 37mm
Polariser Circular 37.5mm
Polariser Circular 40.5mm
Polariser Circular 43mm
Polariser Circular 46mm
Polariser Circular 48mm
Polariser Circular 49mm
Polariser Circular 52mm
Polariser Circular 55mm
Polariser Circular 58mm
Polariser Circular 62mm
Polariser Circular 67mm
Polariser Circular 72mm
Polariser Circular 77mm
Polariser Circular 82mm
Polariser Circular 86mm

Opt. GROUND CLOSE UP SETS +1, +2, +3

Close Up Set 37mm
Close Up Set 40.5mm
Close Up Set 43mm
Close Up Set 43.5mm
Close Up Set 46mm
Close Up Set 49mm
Close Up Set 52mm
Close Up Set 55mm
Close Up Set 58mm
Close Up Set 62mm
Close Up Set 67mm
Close Up Set 72mm
Close Up Set 77mm
Close Up Set 82mm made in China

Opt. GROUND HALF DIOPTR

Split Field 49mm
Split Field 52mm
Split Field 55mm
Split Field 58mm
Split Field 62mm
Split Field 67mm

Opt. GLASS VERY FINE ETCHED

Starburst 4X 27mm
Starburst 4X 28mm
Starburst 4X 30.5mm
Starburst 4X 34mm
Starburst 4X 35.5mm
Starburst 4X 37mm
Starburst 4X 40.5mm

Starburst 4X 43mm
Starburst 4X 43.5mm
Starburst 4X 46mm
Starburst 4X 49mm
Starburst 4X 52mm
Starburst 4X 55mm
Starburst 4X 58mm
Starburst 4X 62mm
Starburst 4X 67mm
Starburst 4X 72mm
Starburst 4X 77mm
Starburst 6X 27mm
Starburst 6X 28mm
Starburst 6X 30.5mm
Starburst 6X 34mm
Starburst 6X 37mm
Starburst 6X 40.5mm
Starburst 6X 43mm
Starburst 6X 46mm
Starburst 6X 49mm
Starburst 6X 52mm
Starburst 6X 55mm
Starburst 6X 58mm
Starburst 6X 62mm
Starburst 6X 67mm
Starburst 6X 72mm
Starburst 6X 77mm

Starburst 8x 37mm
Starburst 8x 49mm
Starburst 8x 52mm
Starburst 8x 55mm
Starburst 8x 58mm
Starburst 8x 62mm
Starburst 8x 67mm
Starburst 8x 72mm
Starburst 8x 77mm

DIFFUSER

Soft Focus 49mm
Soft Focus 52mm
Soft Focus 55mm
Soft Focus 58mm
Soft Focus 62mm
Soft Focus 67mm
Soft Focus 72mm

FOG OPTICAL GLASS

Fog 49mm
Fog 52mm
Fog 55mm
Fog 58mm
Fog 62mm
Fog 67mm
Fog 72mm

Opt. DIOPTR WITH CENTER HOLE FOR SHARP CENTER

Centre Spot Clear 49mm
Centre Spot Clear 52mm
Centre Spot Clear 55mm
Centre Spot Clear 58mm
Centre Spot Clear 62mm

Multi Image 3x 49mm
Multi Image 3x 52mm
Multi Image 3x 55mm
Multi Image 3x 58mm
Multi Image 5x 52mm
Multi Image 5x 58mm

Colours for B&W Ground optical glass

ONE STOP

Yellow 2x 46mm
Yellow 2x 49mm
Yellow 2x 52mm
Yellow 2x 55mm
Yellow 2x 58mm
Yellow 2x 62mm
Yellow 2x 67mm
Yellow 2x 72mm
Yellow 2x 77mm
Yellow 2x 86mm

ONE STOP

V/G 2x 49mm Yellow Green
V/G 2x 52mm
V/G 2x 55mm
V/G 2x 58mm
V/G 2x 62mm
V/G 2x 67mm
V/G 2x 72mm

ONE AND ONE THIRD STOP

Orange 2x 46mm
Orange 2x 49mm
Orange 2x 52mm
Orange 2x 55mm
Orange 2x 58mm
Orange 2x 62mm
Orange 2x 67mm
Orange 2x 72mm
Orange 2x 77mm
Orange 2x 82mm
Orange 2x 86mm

TWO STOPS

Green 2x 46mm
Green 2x 49mm
Green 2x 52mm
Green 2x 55mm
Green 2x 58mm
Green 2x 62mm
Green 2x 67mm
Green 2x 72mm
Green 2x 77mm
Green 2x 82mm
Green 2x 86mm

THREE STOP

Red 2x 46mm
Red 2x 49mm
Red 2x 52mm
Red 2x 55mm
Red 2x 58mm
Red 2x 62mm
Red 2x 67mm
Red 2x 72mm
Red 2x 77mm
Red 2x 82mm
Red 2x 86mm

Conversion Filters

We are unable to replace these with Japanese filters - replacements will be UK Optical resin filters

JAPANESE OPTICAL GLASS OR UK OPTICAL RESIN

80A 52mm	82B 52mm
80A 55mm	82B 55mm
80A 58mm	82B 58mm
80A 62mm	82B 62mm
80A 67mm	82B 67mm
80A 72mm	82B 72mm
80A 77mm	82B 77mm
80B 49mm	85A 49mm
80B 52mm	85A 52mm
80B 55mm	85A 55mm
80B 58mm	85A 58mm
80B 62mm	85A 62mm
80B 67mm	85A 67mm
80B 72mm	85A 72mm
80B 77mm	85A 77mm
81A 49mm	85B 49mm
81A 52mm	85B 52mm
81A 55mm	85B 55mm
81A 58mm	85B 58mm
81A 62mm	85B 62mm
81A 67mm	85B 67mm
81A 72mm	85B 72mm
81A 77mm	85B 77mm
81B 49mm	FLD 49mm
81B 52mm	FLD 52mm
81B 55mm	FLD 55mm
81B 58mm	FLD 58mm
81B 62mm	FLD 62mm
81B 67mm	FLD 67mm
81B 72mm	FLD 72mm
81B 77mm	FLD 77mm
82A 49mm	FLW 49mm
82A 52mm	FLW 52mm
82A 55mm	FLW 55mm
82A 58mm	FLW 58mm
82A 62mm	FLW 62mm
82A 67mm	FLW 67mm
82A 72mm	FLW 72mm
82A 77mm	FLW 77mm
82B 49mm	



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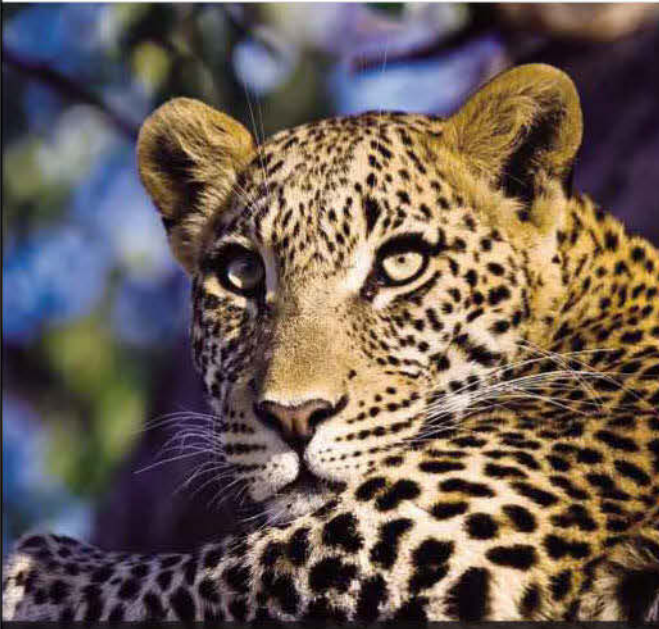
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Cheetahs, Lions, Foxes, Birds of Prey, Cambs. £109

April 18th, June 28th; Privileged access to Cheetahs, Bengal Tiger, White Tiger & Corsac Foxes. The Cheetah & Tiger enclosures are not mowed for enhanced photographic opportunities. Private Displays by various Birds of Prey, both static & flying. Jesses hidden for static shots. New Cheetah Cubs for 2015

Amazing Bat Photos & Learn Fill-in Flash Techniques £129

April 15th, 17th; Oxfordshire. We will concentrate on the Bats first. Take amazing bat photos. Practice fill-in flash on many other wildlife subjects in different lighting conditions. Max 4 persons. We are most happy to lend you a Canon digital camera and flash unit for the day. Indoor exhibits make weather conditions irrelevant.

Big Cats at WHF, Smarden in Kent £149

March 21st, 28th. April 11th, May 9th; Up close to African Lions, Bengal + Siberian + Sumatran Tigers, Serval, Cheetah, Pumas, Jungle Cat, Amur & Snow Leopards, Black Leopards, Clouded Leopards, Fishing Cat. Large open enclosures. UK's most popular photo workshop. Really special photo opportunities from just inches away. Two sets of Lion Cubs born July & August 2013. Huge natural enclosure. Max 12 clients.

Big Cats at WHF, Smarden in Kent

- Specialist event for just 6 photographers - includes Jaguar £199

April 8th, 9th, 10th; Full day as above, but with additional space at each enclosure. Time is also put aside to review your photos at lunchtime. One to one tuition throughout this very special day. You will see all the animals as above and you will have more personal interaction with the cats. Now including Jaguar.

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Gorillas & African Safari Experience, Port Lympne £149

March 22nd, May 3, 10, 31st; 3 gorilla sessions. No wires, fences or bars throughout the day. Clean backgrounds plus Privileged Access. Photograph at eye level over moat. Huge male silverbacks + family group. Private VIP Safari for 2.5 hours. Rhinos, Wildebeest, Eland, Zebras, Giraffes, Buffalo, Ostriches, Deer.

Birds of Prey Workshop, Bedford £99

April 25th, 26th; Private flying displays on pre-determined flightpath helps you to focus on birds in flight. Excellent opportunities with carefully chosen backgrounds. Also static shots in outstanding wooded locations. Jesses carefully hidden. This location boasts one of the largest collections of Birds of Prey in the UK. White tailed Sea Eagle, Bald Eagles, Hawks, Owls, Falcons, Kestrels, Buzzards and Long Eared Owl (new).

Foxes, Otters, Wildcats, Badgers & more, Surrey. £139

July 6th, 7th, 8th; Inside enclosures 'til sunset. Also Owls, Snakes, Badgers, Polecats, Weasels, Hedgehog, Harvest Mice & various Deer. This is possibly England's longest established photographic venue. 2 sessions with the foxes, sometimes only inches away from you. Time is spent inside enclosures with Foxes, Otters & Scottish Wildcats. Badgers GUARANTEED. No fences or wires to shoot through for any subject today.

Small Cats Workshop, Welwyn, Herts. £99

April 22, 23rd; Privileged access to Snow Leopards, Amur Leopards, Pumas, Caracal, Leopard Cat, Lynx, Servals, Golden Cat. As featured on recent series of TV programs on Animal Planet. Small groups. Tuition

Bass Rock Gannets £185

June 5, 7, 11, 21st; Private boat. Exclusive use of island for just 10 photographers. 50,000 pairs of nesting gannets on one small island. 4.5 hours photography. Amazing close-ups & fantastic flight shots. Large crate of fish fed to gannets as they dive into the sea. An amazing sight that you will never forget.

Gannets diving off Bass Rock £99

June 19th; Fantastic new workshop for 2014. We sail round Bass Rock without landing on the island. A whole hour of throwing fish into the sea for the Gannets to catch. Amazing diving shots. 1,000 + dives. Tuition.

Farne Islands Puffins (Over 5 hrs photography) £89

June 6th, 10th, 17th, 20th; 20 species of birds. 50,000 puffins. Guillemots, Razorbills, Shag, Arctic Tern colony etc. You will get unbelievably close to some of the species. Get that much sought after shot of Puffins with their beaks crammed full of sand eels. Tips and Tuition. Approximately 5 hours photography.

Pro Birds of Prey Shoot, Bamburgh, Northumberland. £139

June 13th, 14th; Amazing photography opportunities. Hill top views overlooking large extensive valleys and seascapes. Rocks and gorse bushes abound. Golden Eagle, Peregrine Falcon, Snowy Owl, Eagle Owl and Barn Owl will be placed in really natural situations. Jesses will be hidden where possible for those perfect "in the wild" shots. Can combine with Bass/Farne as this location is very close to the Farne Islands.

Pro Birds of Prey Shoot (2), Bamburgh, Northumberland. £139

June 4th, 8th, 12th, 16th; New venue. Both the falconer and the birds are different to workshop above. Venues are about 20 miles apart. We will take two of the birds down to an amazingly beautiful, little known waterfall. This will provide a unique backdrop for your subjects. The falls are surrounded by trees covered with mosses and lichens. We will photograph up to 10 different species, mainly British. Maximum 8 photographers.



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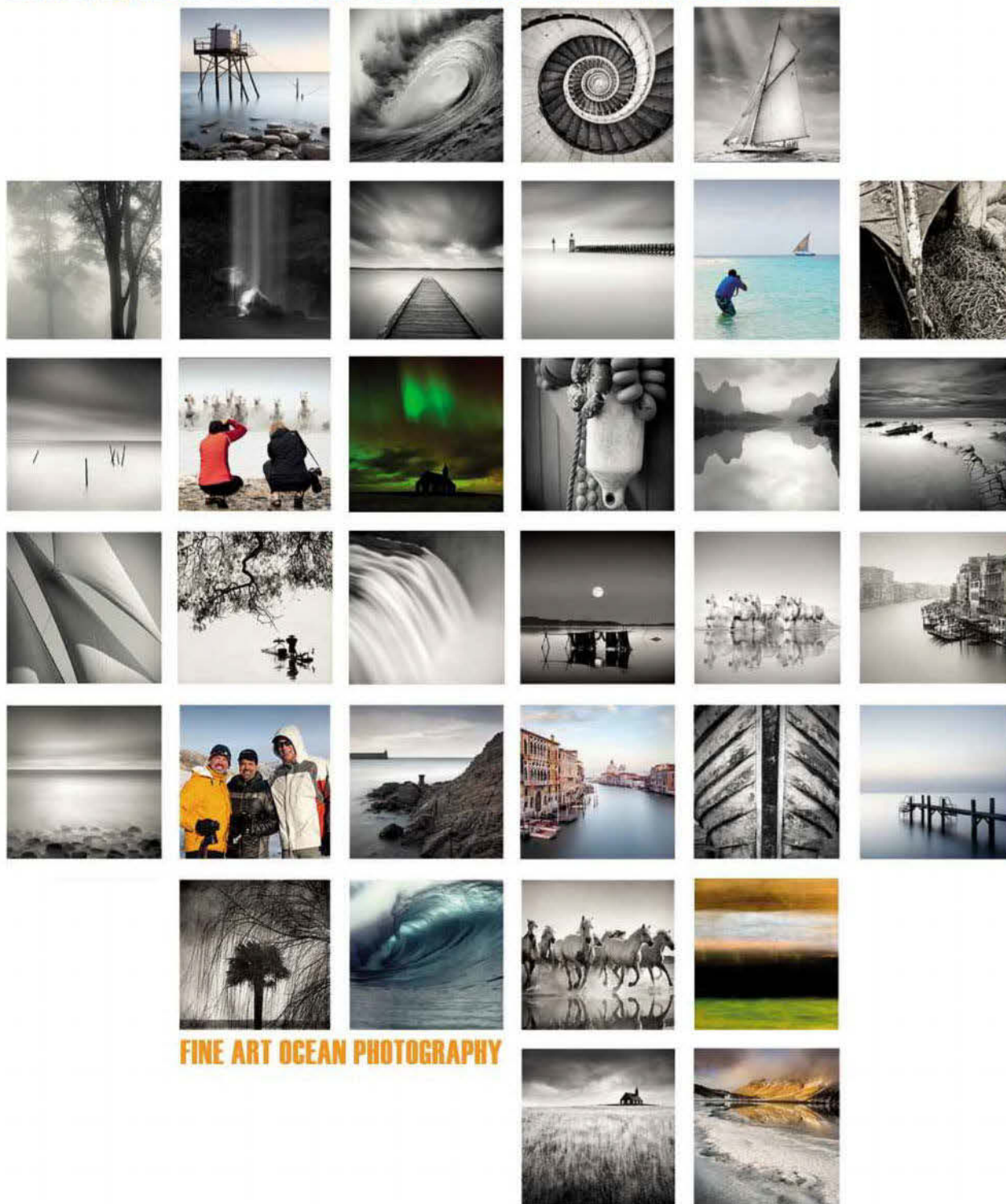
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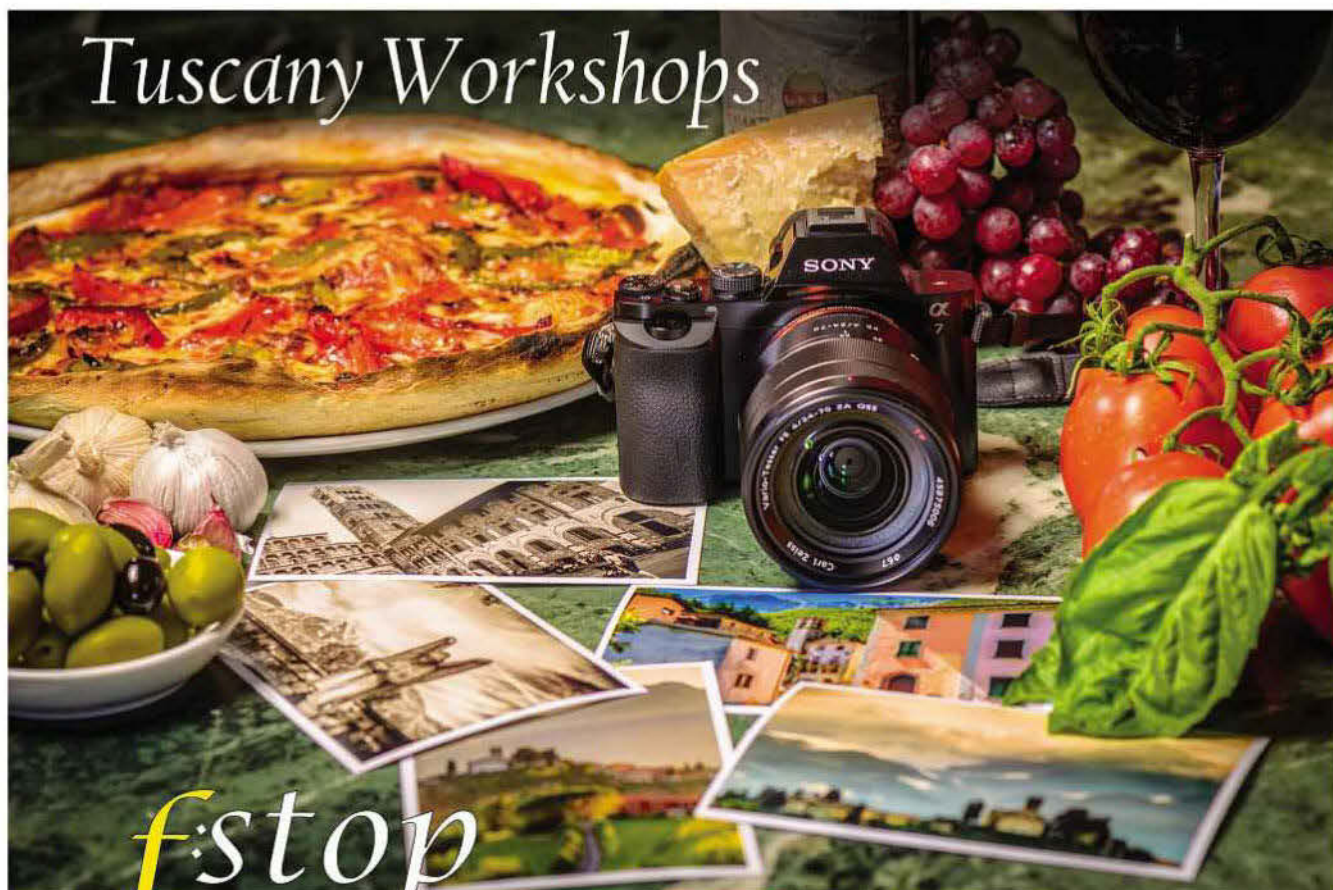
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FEW PHOTO BRANDS have the heritage and reputation for manufacturing innovative, high-quality products as Manfrotto. The Italian company has produced leading tripods, monopods and studio supports for decades and in recent years has diversified to offer everything from camera storage through to LED lights for your smartphone.

One lucky reader will soon find out just how good Manfrotto is, as we have a bundle of three brilliant goodies from Manfrotto worth more than £500 to give away!

First up is the £160 190 Go!, a stylish four-section aluminium tripod that boasts a compact design, making it ideal for travel photographers looking for a sturdy support that can be stored with ease. It closes down to only 45cm and weighs only 1.7kg, yet can be raised to a very useful height of 1.22m (1.46m with the centre column extended). It sports twist locks that are fast and easy to use, as well as a clever mechanism that allows the centre column to be swing to 90° in no time at all. Use this feature combined with the widest of the four leg angles and you can shoot from as low down as 7cm!

Manfrotto's latest head – the £170 XPRO GEARED 3-Way – is the perfect choice to go with the 190 Go! This highly versatile head can be adjusted into position quickly thanks to its three-way action and also benefits from micrometric knobs that offer geared movement for very precise control. Its Adapto body is made from technopolymer, a lightweight yet strong material, allowing the head to support payloads up to 4kg.

The third item in this brilliant bundle is the £200 3N1-35 PL Pro Light Camera Backpack, a versatile pack designed to offer the fastest way to your kit. Use it as a left- or- right arm sling or as a traditional pack, with ample room to store your DSLR with various lenses and accessories within its padded interior, along with a laptop. It's made from water-repellent fabric, has a rain protector and is suitable for use as cabin luggage.

To have the chance of winning, all you need to do is answer our simple question before the closing date of Tuesday 21 July 2015. Please note that this competition is only open to readers living in the UK.

For further information on Manfrotto products, visit: www.manfrotto.co.uk



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HOW TO ENTER

For your chance to win this fantastic Manfrotto bundle, answer this simple question:

In what year did Manfrotto launch its first tripod?

A) 1923 B) 1974 C) 2001

Email your answer, along with your name & address, to: competitions@dslrphotomag.co.uk using the subject 'Manfrotto goodies' by Tuesday 21 July 2015. We'll pick one winner at random and they will receive confirmation within seven days. For full terms and conditions, visit: www.digitalslrphoto.com. Open to UK readers only.

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